STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3
AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
NBU 1021-29C4BS

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
NATURAL BUTTES

4. TYPE OF WELL
Gas Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME
NATURAL BUTTES

6. NAME OF OPERATOR
KERR-MCGEE OIL & GAS ONSHORE, L.P.

7. OPERATOR PHONE
720 929-6515

8. ADDRESS OF OPERATOR
P.O. Box 173779, Denver, CO, 80217

9. OPERATOR E-MAIL
julie.jacobson@anadarko.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
ML 21330

11. MINERAL OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ◉ FEE ○

12. SURFACE OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ◉ FEE ○

13. NAME OF SURFACE OWNER (if box 12 = 'fee')

14. SURFACE OWNER PHONE (if box 12 = 'fee')

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ◉ (Submit Commingling Application) NO ○

19. SLANT
VERTICAL ○ DIRECTIONAL ◉ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1685 FNL 1518 FWL	SENW	29	10.0 S	21.0 E	S
Top of Uppermost Producing Zone	837 FNL 2171 FWL	NENW	29	10.0 S	21.0 E	S
At Total Depth	837 FNL 2171 FWL	NENW	29	10.0 S	21.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
837

23. NUMBER OF ACRES IN DRILLING UNIT
640

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
1209

26. PROPOSED DEPTH
MD: 9625 TVD: 9457

27. ELEVATION - GROUND LEVEL
5267

28. BOND NUMBER
22013542

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
Permit #43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2140	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 9625	11.6	I-80 Buttress	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1130	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
☑ COMPLETE DRILLING PLAN
☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
☑ TOPOGRAPHICAL MAP

NAME Danielle Piernot	**TITLE** Regulatory Analyst	**PHONE** 720 929-6156
SIGNATURE	**DATE** 03/11/2011	**EMAIL** danielle.piernot@anadarko.com

API NUMBER ASSIGNED
43047515240000

APPROVAL

Permit Manager

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Kerr-McGee Oil & Gas Onshore. L.P.

NBU 1021-29C4BS

Surface: 1685 FNL / 1518 FWL SENW
BHL: 837 FNL / 2171 FWL NENW

Section 29 T10S R21E

Unitah County, Utah
Mineral Lease: UT ST ML 21330

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 - Surface	
Green River	1087	
Birds Nest	1344	Water
Mahogany	1690	Water
Wasatch	4289	Gas
Mesaverde	7216	Gas
MVU2	8165	Gas
MVL1	8690	Gas
TVD	9457	
TD	9625	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

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7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 9457' TVD, approximately equals 6,039 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,959 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

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Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements
The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements
Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

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on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP			DATE	February 10, 2011
WELL NAME	**NBU 1021-29C4BS**			TD	9,457' TVD 9,625' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah		FINISHED ELEVATION 5267
SURFACE LOCATION	SENW 1685 FNL 1518 FWL	Sec 29	T 10S	R 21E	
	Latitude: 39.921233	Longitude: -109.579022			NAD 27
BTM HOLE LOCATION	NENW 837 FNL 2171 FWL	Sec 29	T 10S	R 21E	
	Latitude: 39.923605	Longitude: -109.576729			NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			11'	8-5/8", 28#, IJ-55, LTC	Air mist

All water flows encountered while drilling will be reported to the appropriate agencies.

Green River @	**1,087'**
Top of Birds Nest @	**1,344'**
Mahogany @	**1,690'**
Preset f/ GL @	**2,140' MD**

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @	**4,289'**

Mud logging program TBD

Cased hole logging program from TD - surf csg

Mverde @	**7,216' TVD**
MVU2 @	**8,165' TVD**
MVU1 @	**8,690' TVD**

		7-7/8"	4-1/2" 11.6# I-80 or equivalent BTC csg	Water / Fresh Water Mud 8.3-12.5 ppg

Max anticipated Mud required 12.5 ppg

TD @ 9,457' TVD 9,625' MD

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KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'						
						3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,140	28.00	IJ-55	LTC	2.53	1.88	5.75
						7,780	6,350	367,000
PRODUCTION	4-1/2"	0 to 9,625	11.60	I-80	BTC	1.11	1.03	4.06

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**				
Option 2	LEAD	1,640'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,785'	Premium Lite II +0.25 pps	270	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,840'	50/50 Poz/G + 10% salt + 2% gel	1,130	10%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: _____ **DATE:** _____

Nick Spence / Emile Goodwin

DRILLING SUPERINTENDENT: _____ **DATE:** _____

Kenny Gathings / Lovel Young

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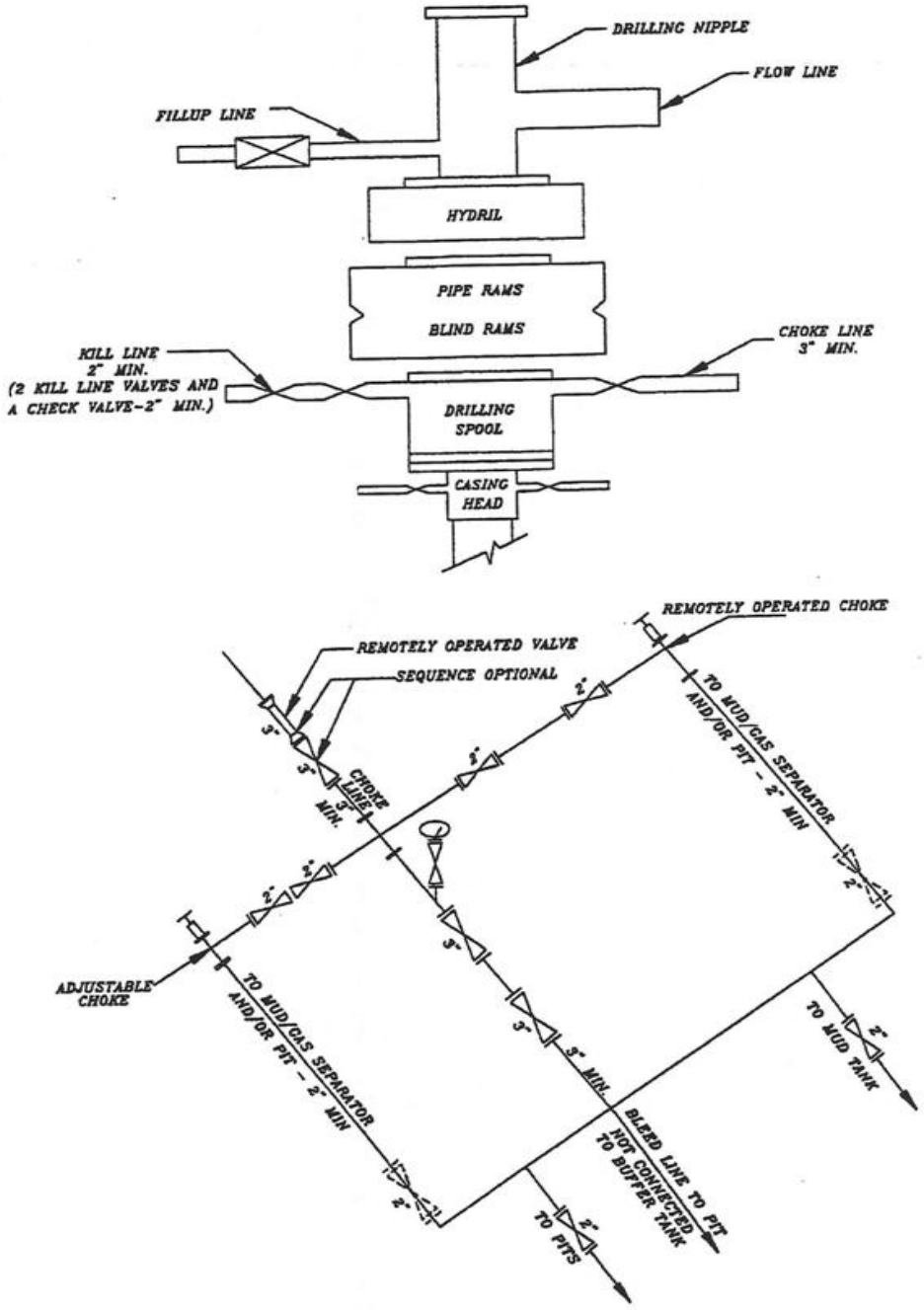
EXHIBIT A
NBU 1021-29C4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

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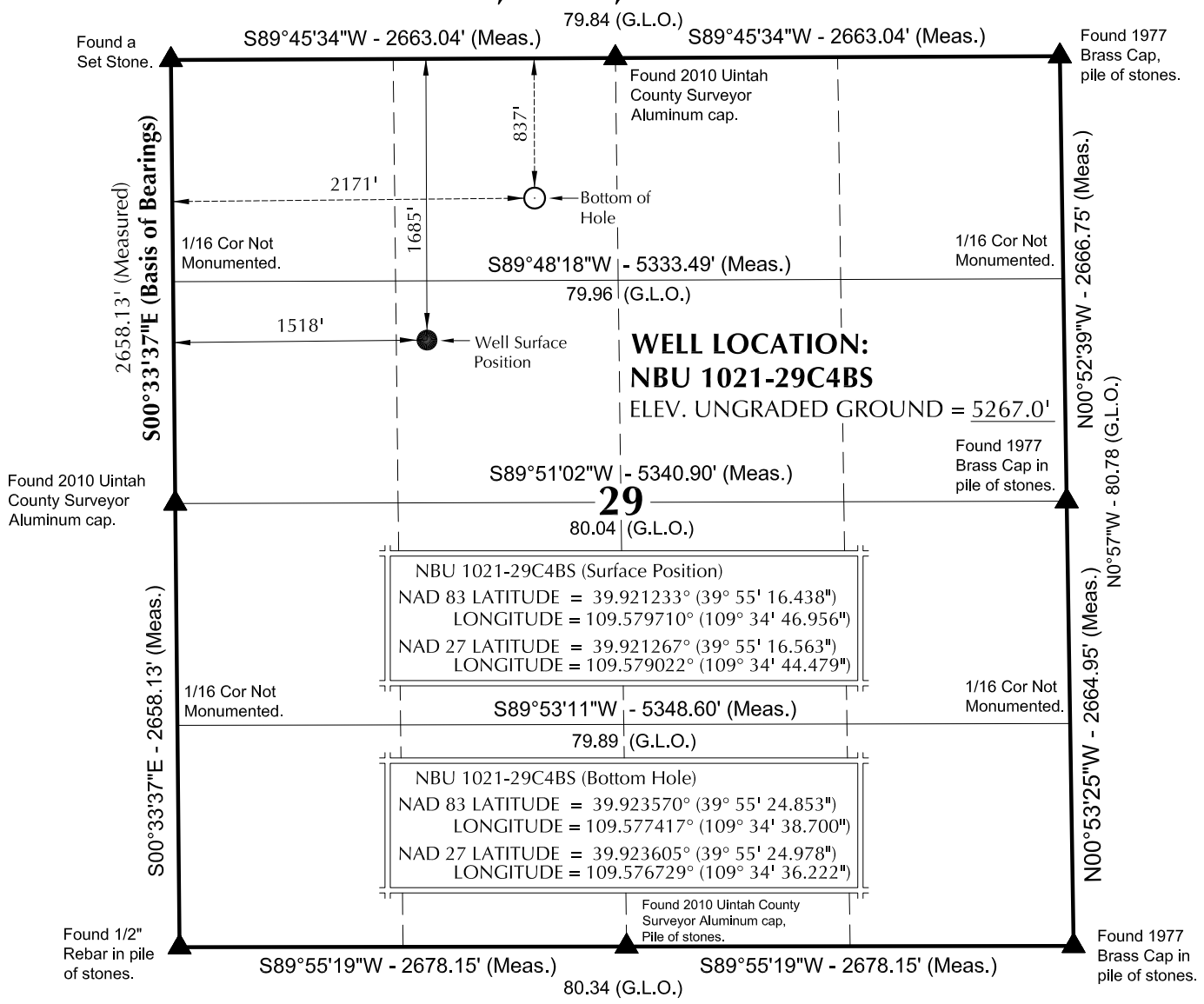
API Well Number: 43047515240000

T10S, R21E, S.L.B.&M.



NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears N37°08'32"E 1067.50' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR No.6028691 JOHN R SLAUGH STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD: NBU 1021-29F

NBU 1021-29C4BS
WELL PLAT
837' FNL, 2171' FWL (Bottom Hole)
NE ¼ NW ¼ OF SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-29-10	SURVEYED BY: D.J.S.	SHEET NO: 1
DATE DRAWN: 11-07-10	DRAWN BY: K.H.G.	1 OF 16
SCALE: 1" = 1000'	Date Last Revised:	

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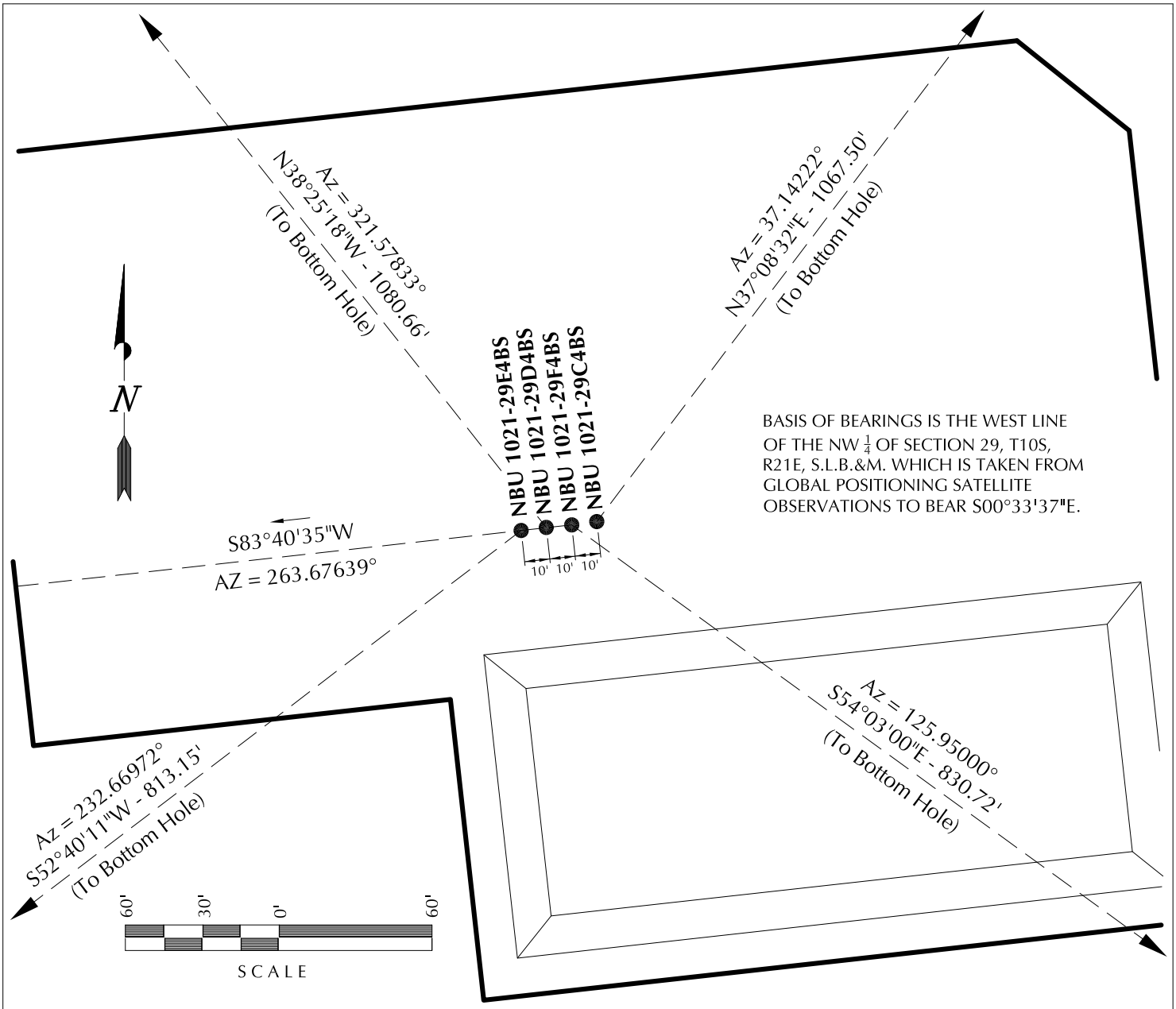
WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27			NAD83		NAD27		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
NBU 1021-29C4BS	39°55'16.438" 39.921233°	109°34'46.956" 109.579710°	39°55'16.563" 39.921267°	109°34'44.479" 109.579022°	1685' FNL 1518' FWL	39°55'24.853" 39.923570°	109°34'38.700" 109.577417°	39°55'24.978" 39.923605°	109°34'36.222" 109.576729°	837' FNL 2171' FWL
NBU 1021-29F4BS	39°55'16.425" 39.921229°	109°34'47.083" 109.579745°	39°55'16.550" 39.921264°	109°34'44.605" 109.579057°	1686' FNL 1508' FWL	39°55'11.615" 39.919893°	109°34'38.445" 109.577346°	39°55'11.740" 39.919928°	109°34'35.968" 109.576658°	2177' FNL 2176' FWL
NBU 1021-29D4BS	39°55'16.415" 39.921226°	109°34'47.211" 109.579781°	39°55'16.539" 39.921261°	109°34'44.734" 109.579093°	1687' FNL 1498' FWL	39°55'24.771" 39.923547°	109°34'55.843" 109.582179°	39°55'24.896" 39.923582°	109°34'53.365" 109.581490°	838' FNL 835' FWL
NBU 1021-29E4BS	39°55'16.403" 39.921223°	109°34'47.338" 109.579816°	39°55'16.527" 39.921258°	109°34'44.861" 109.579128°	1689' FNL 1488' FWL	39°55'11.522" 39.919867°	109°34'55.626" 109.582118°	39°55'11.647" 39.919902°	109°34'53.149" 109.581430°	2179' FNL 837' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1021-29C4BS	850.9'	644.6'	**NBU 1021-29F4BS**	-487.7'	672.5'	**NBU 1021-29D4BS**	846.7'	-671.6'	**NBU 1021-29E4BS**	-493.1'	-646.6'



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-29F

WELL PAD INTERFERENCE PLAT

WELLS - NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

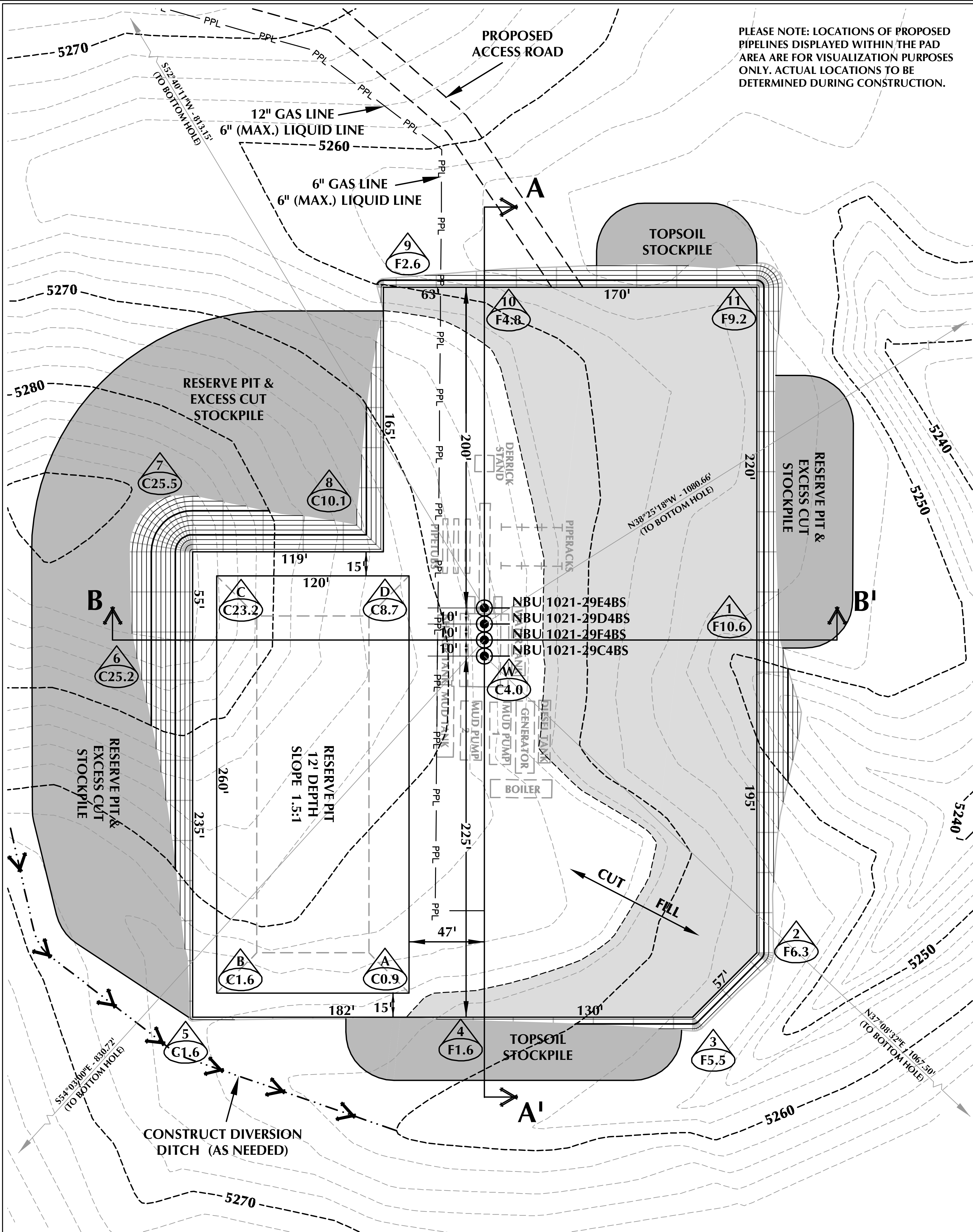
609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-29-10	SURVEYED BY: D.J.S.	SHEET NO: 5
DATE DRAWN: 11-08-10	DRAWN BY: K.H.G.	5 OF 16
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



WELL PAD - NBU 1021-29F DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5266.9'
FINISHED GRADE ELEVATION = 5262.9'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.71 ACRES
TOTAL DAMAGE AREA = 6.28 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

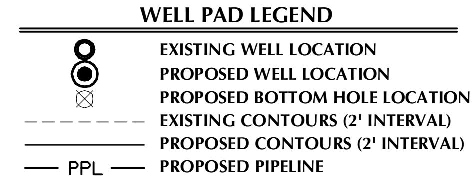
WELL PAD QUANTITIES

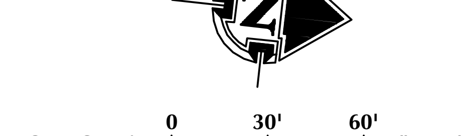
TOTAL CUT FOR WELL PAD = 21,943 C.Y.
TOTAL FILL FOR WELL PAD = 14,627 C.Y.
TOPSOIL @ 6" DEPTH = 2,994 C.Y.
EXCESS MATERIAL = 7,316 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 11,020 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 42,290 BARRELS

WELL PAD LEGEND





Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-29F

WELL PAD - LOCATION LAYOUT
NBU 1021-29C4BS, NBU 1021-29F4BS,
NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

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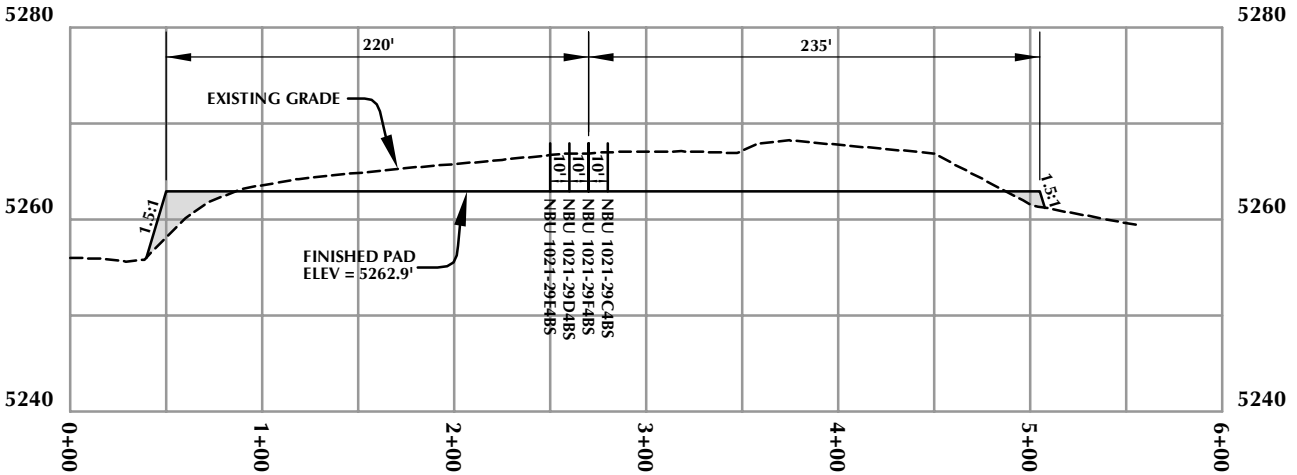
209 NORTH 300 WEST - VERNAL, UTAH 84078

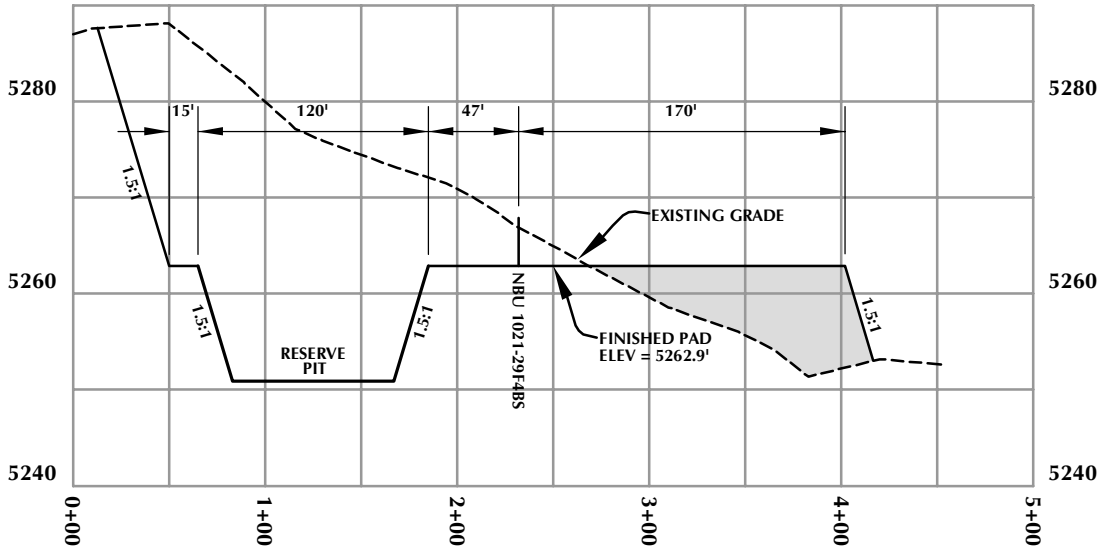
SCALE: 1"=60'	DATE: 11/16/10	SHEET NO: 6
REVISED:		6 OF 16

K:\ANADARKO\2010_60_NBU_1021-28-32_STAKING\DWG\NBU 1021-29F\NBU 1021-29F.dwg

RECEIVED: May. 19, 2011



CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-29F

WELL PAD - CROSS SECTIONS
NBU 1021-29C4BS, NBU 1021-29F4BS,
NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

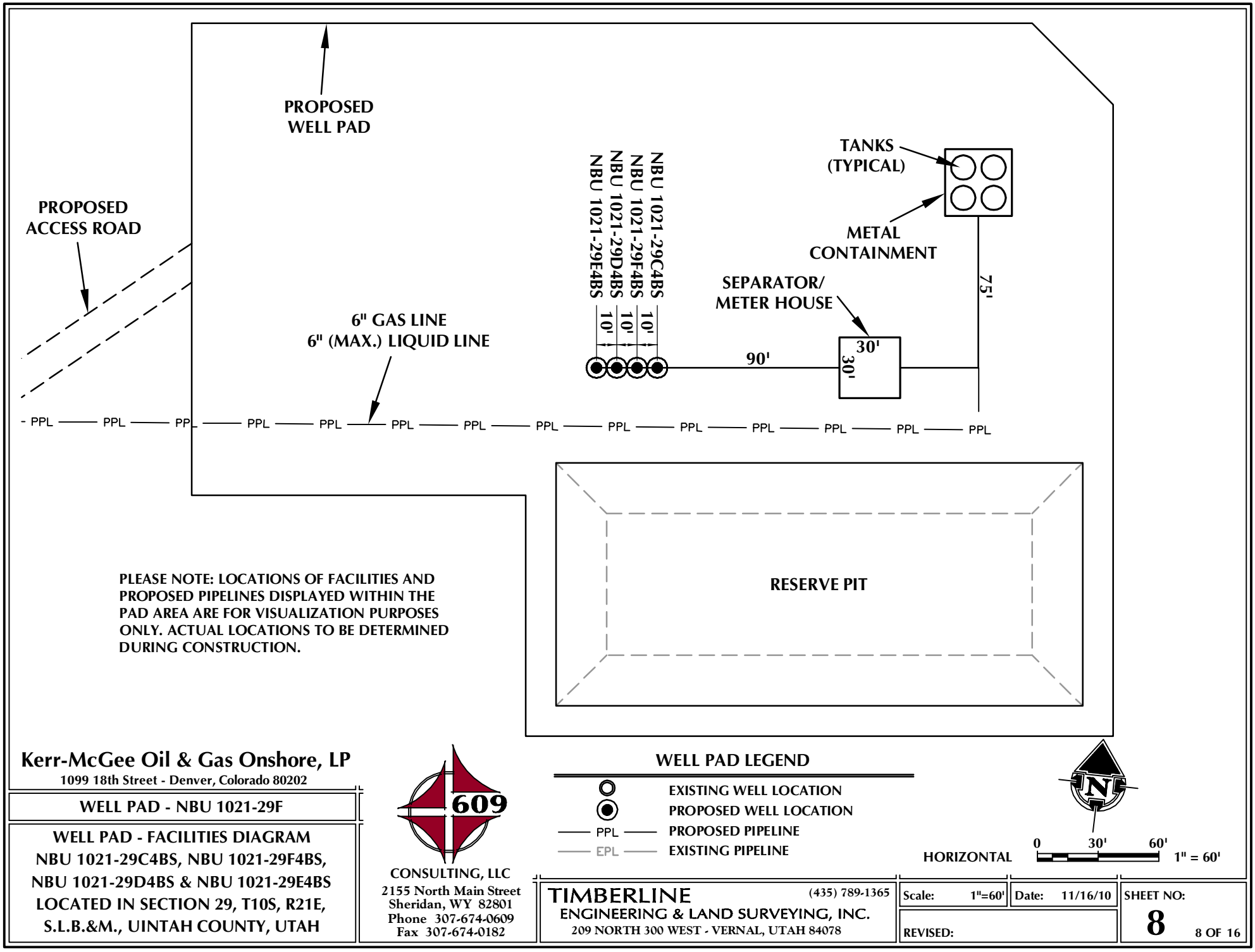
HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' | Date: 11/16/10 | SHEET NO: 7 | 7 OF 16
REVISED:

K:\ANADARKO\2010_60_NBU_1021-28-32_STAKING\DWG\NBU 1021-29F\NBU 1021-29F.dwg, 11/12/2010 9:12:03 AM

RECEIVED: May. 19, 2011



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-29F

WELL PAD - FACILITIES DIAGRAM
NBU 1021-29C4BS, NBU 1021-29F4BS,
NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH

609
CONSULTING, LLC
2155 North Main Street
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TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=60' | Date: 11/16/10 | SHEET NO: 8 | 8 OF 16
REVISED:

K:\ANADARKO\2010_60_NBU_1021-28-32_STAKING\DWG\NBU 1021-29F\NBU 1021-29F.dwg

RECEIVED: May. 19, 2011

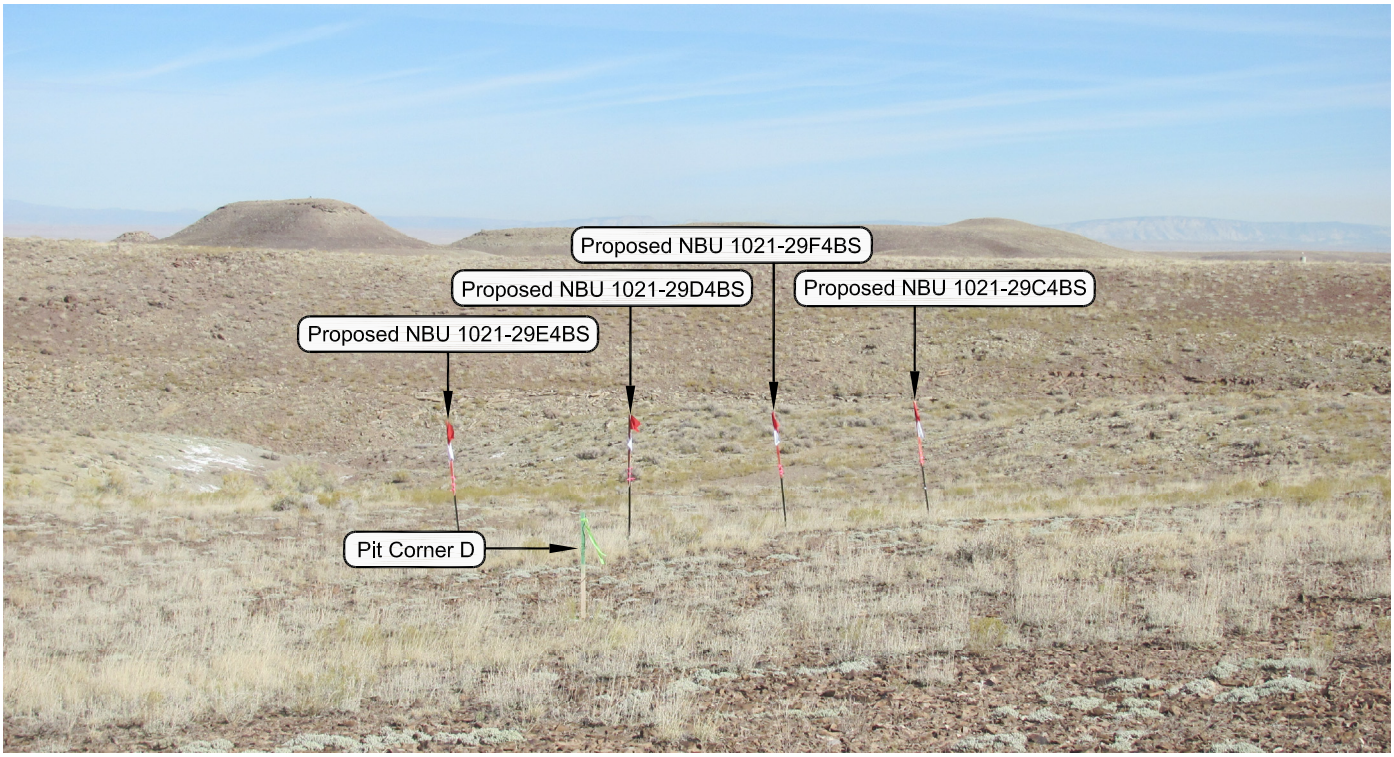


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE CAMERA ANGLE: NORTHEASTERLY

PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD CAMERA ANGLE: NORTHERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-29F

LOCATION PHOTOS
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

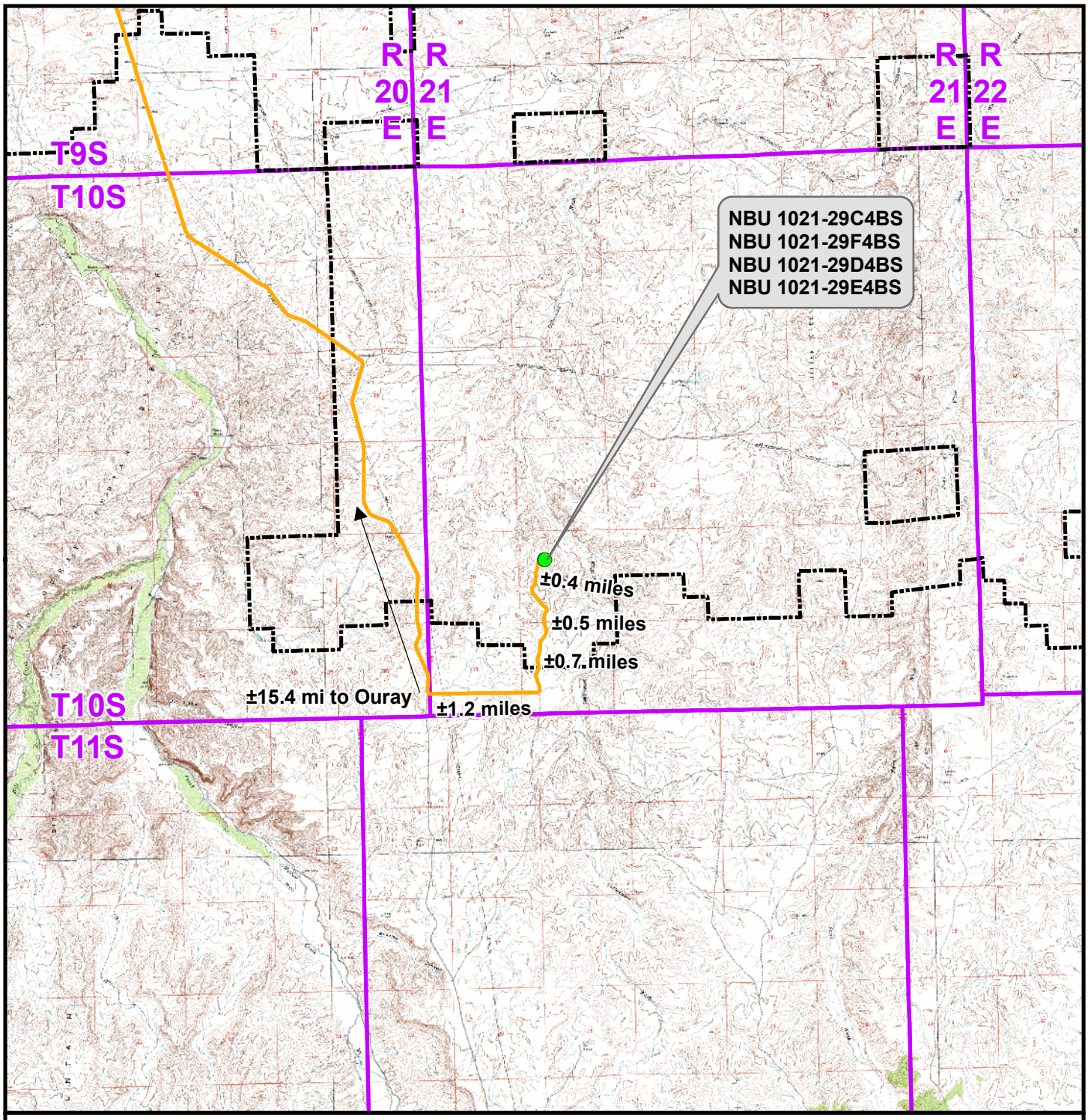
609 CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 10-29-10	PHOTOS TAKEN BY: D.J.S.	SHEET NO: 9
DATE DRAWN: 11-07-10	DRAWN BY: K.H.G.	9 OF 16
Date Last Revised:		

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



Legend

Distance From Well Pad - NBU 1021-29F To Unit Boundary: ±3,951ft

Proposed Well Location

Natural Buttes Unit Boundary

Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

TOPO A
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

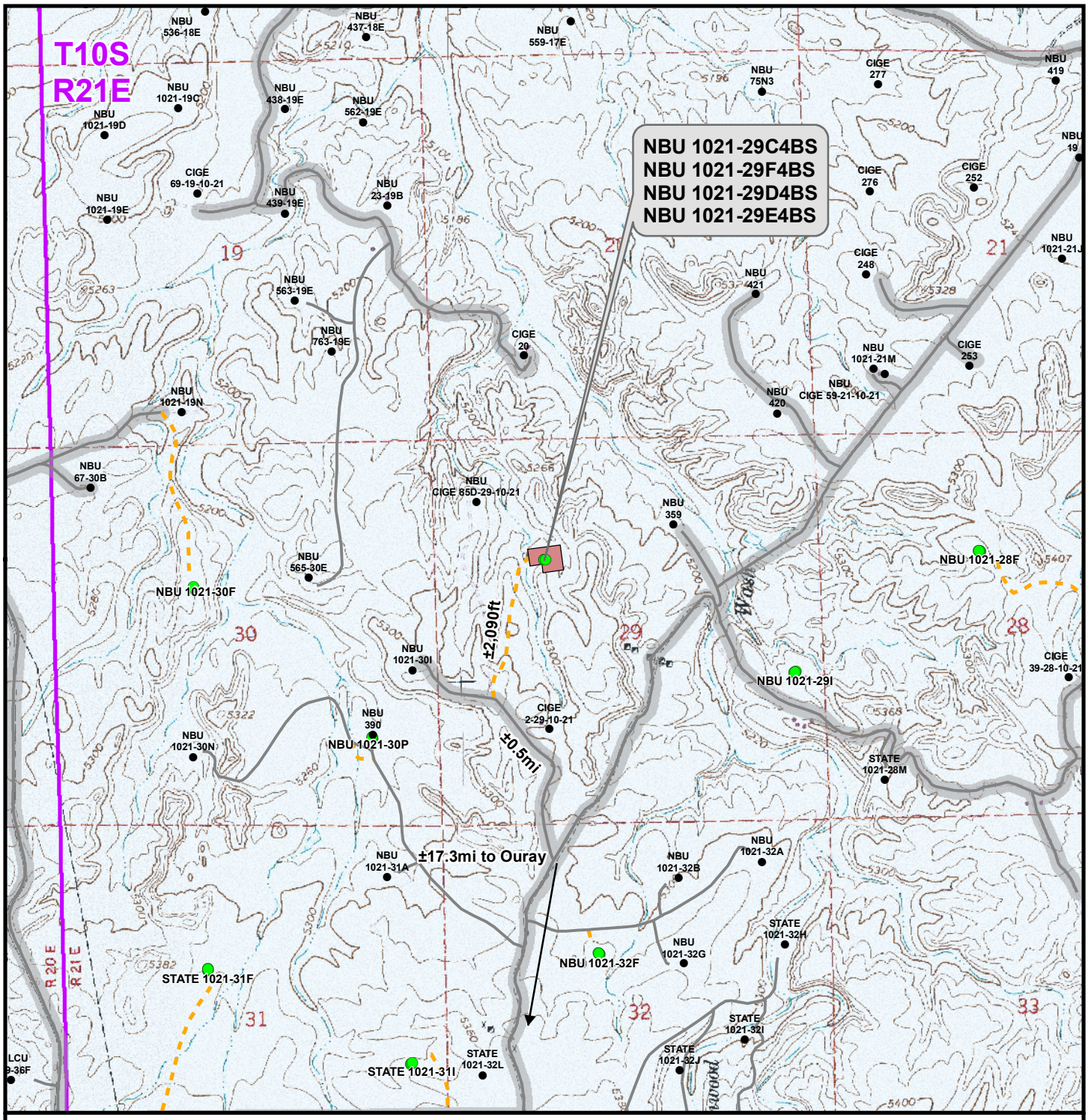
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 10 of 16	
Drawn: JFE	Date: 16 Nov 2010		
Revised:	Date:		

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



Legend

Total Proposed Road Length: ±2,090ft

- Well - Proposed
- Well - Existing
- Well Pad
- Road - Proposed
- Road - Existing
- County Road
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

TOPO B
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

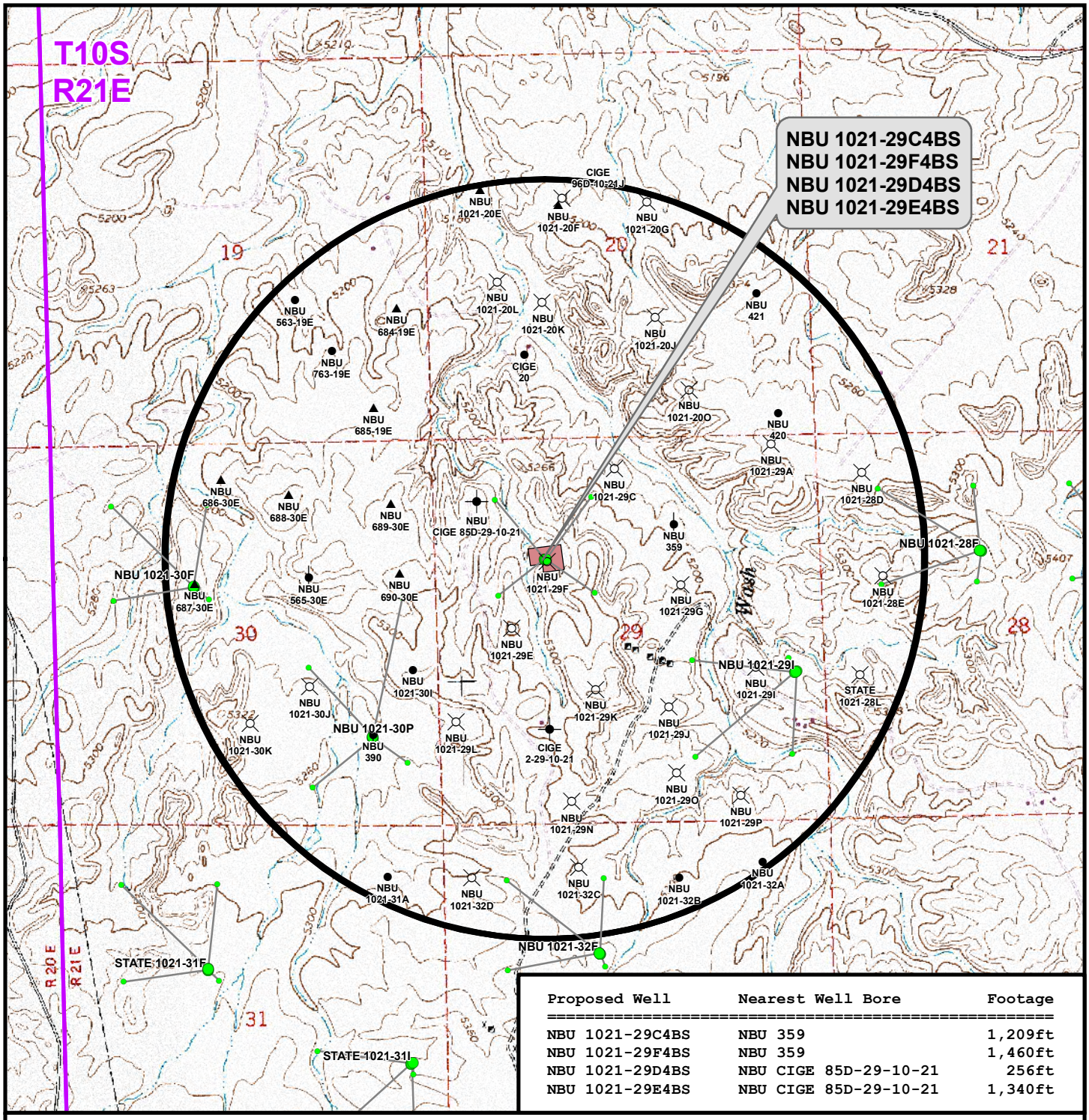
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:	
Drawn: JFE	Date: 16 Nov 2010	11	11 of 16
Revised:	Date:		

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



Proposed Well	Nearest Well Bore	Footage
NBU 1021-29C4BS	NBU 359	1,209ft
NBU 1021-29F4BS	NBU 359	1,460ft
NBU 1021-29D4BS	NBU CIGE 85D-29-10-21	256ft
NBU 1021-29E4BS	NBU CIGE 85D-29-10-21	1,340ft

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

Legend

- Well - Proposed
- Well Path
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Pad
- Well - 1 Mile Radius

- Producing
- Active
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

TOPO C
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

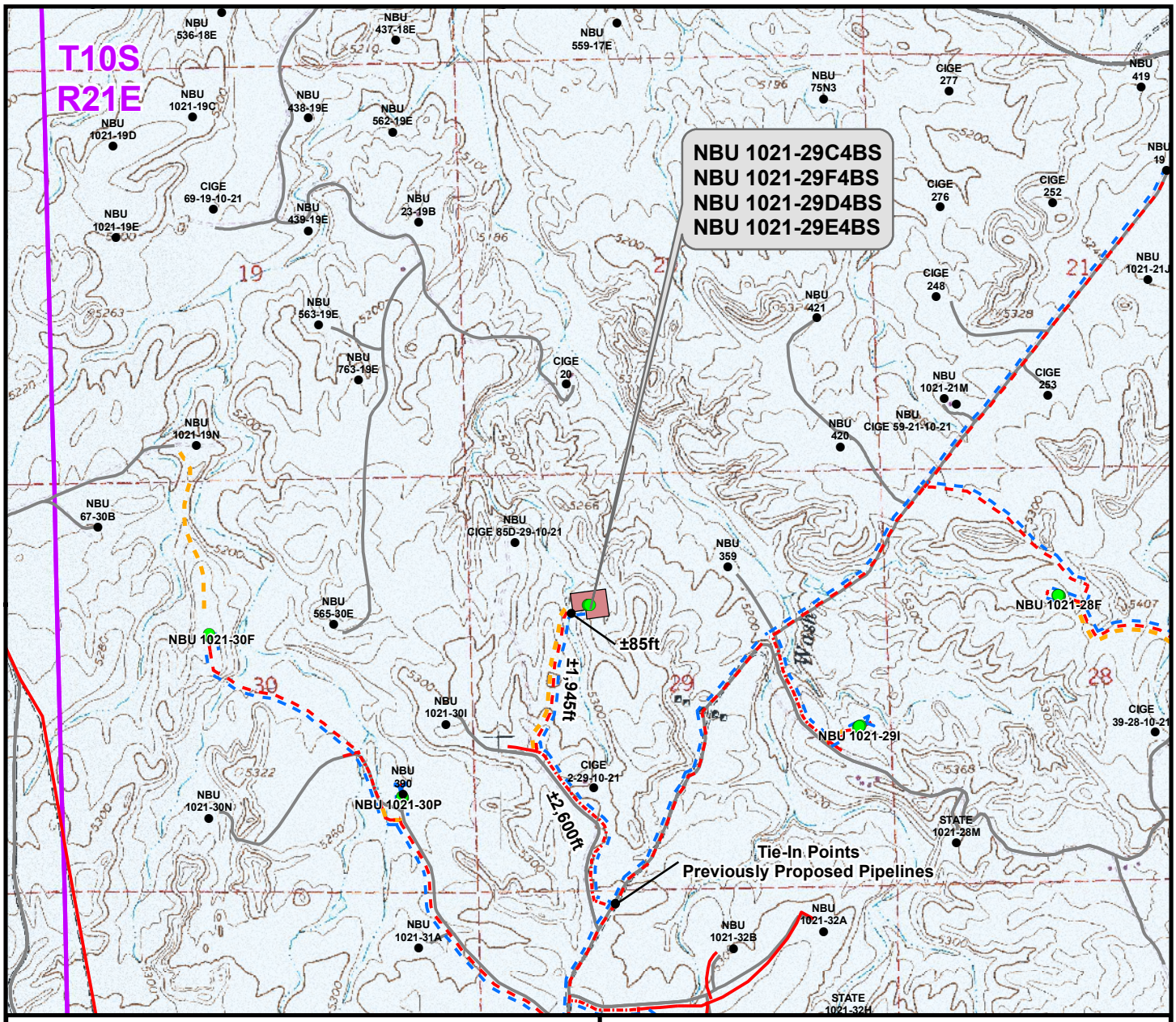
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 12 of 16	
Drawn: JFE	Date: 16 Nov 2010		
Revised:	Date:		

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±470ft
Proposed 6" (Max.) (Edge of Pad to Previously Proposed Liquid Pipeline)	±4,630ft
TOTAL PROPOSED LIQUID PIPELINE =	±5,100ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±470ft
Proposed 6" (Edge of Pad to Proposed 12" Gas Pipeline)	±85ft
Proposed 12" (Proposed 12" Gas Pipeline to Previously Proposed 16" Gas Pipeline)	±4,545ft
TOTAL PROPOSED GAS PIPELINE =	±5,100ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

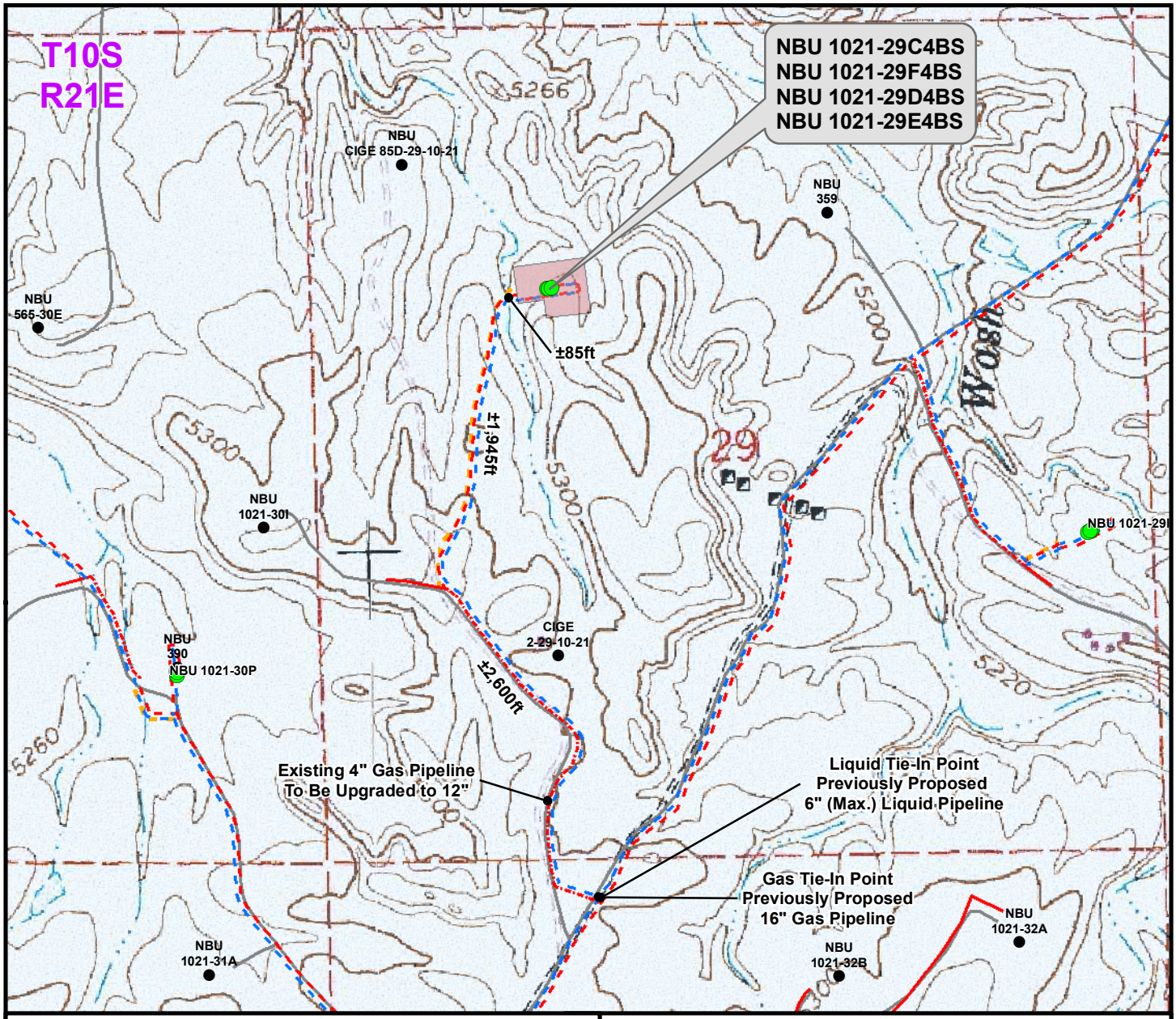
TOPO D
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 13 of 16	
Drawn: JFE	Date: 16 Nov 2010		
Revised:	Date:		

RECEIVED: May. 19, 2011



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±470ft
Proposed 6" (Max.) (Edge of Pad to Previously Proposed Liquid Pipeline)	±4,630ft
TOTAL PROPOSED LIQUID PIPELINE =	±5,100ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±470ft
Proposed 6" (Edge of Pad to Proposed 12" Gas Pipeline)	±85ft
Proposed 12" (Proposed 12" Gas Pipeline to Previously Proposed 16" Gas Pipeline)	±4,545ft
TOTAL PROPOSED GAS PIPELINE =	±5,100ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

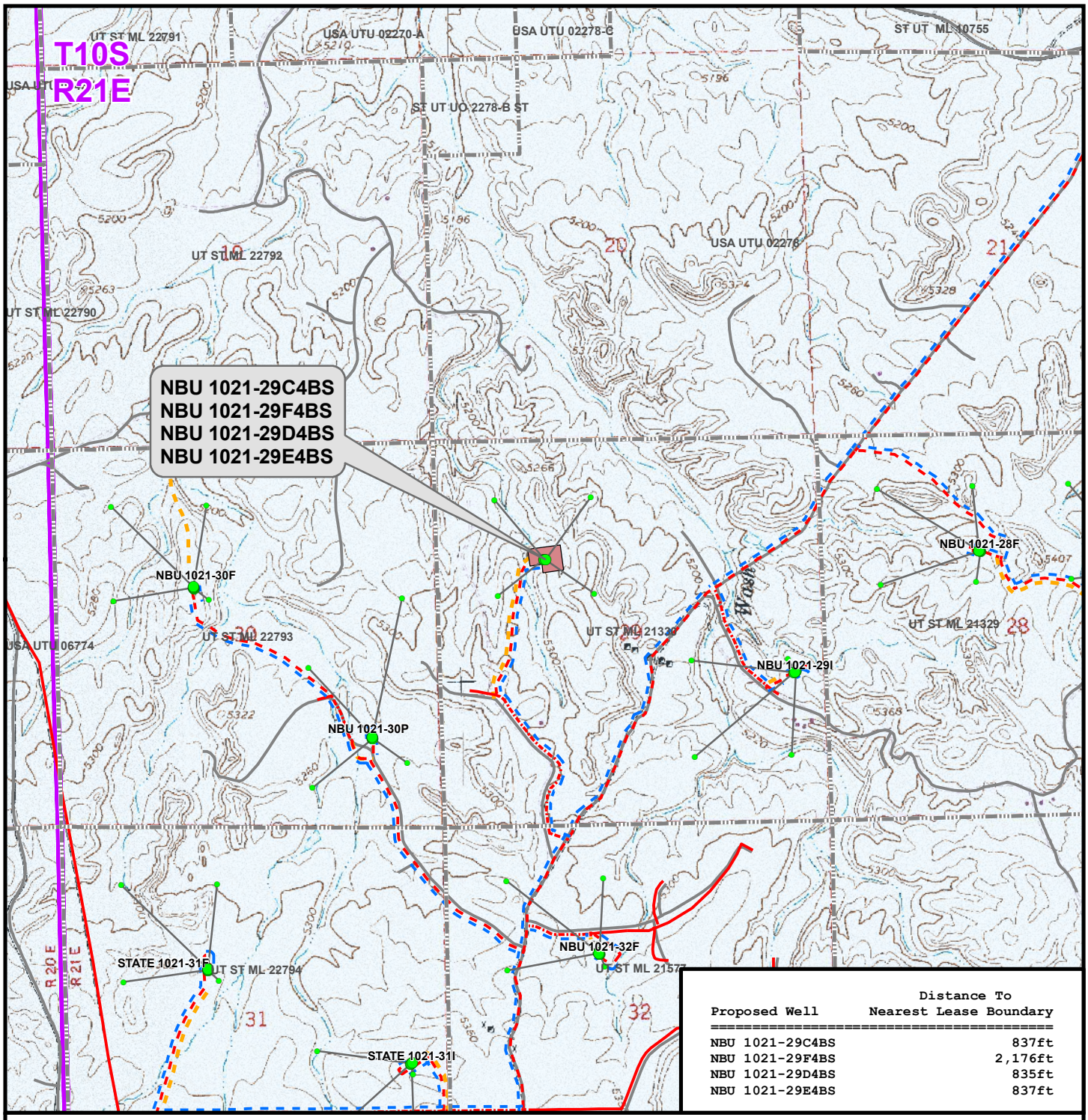
609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 1,000ft	NAD83 USP Central	Sheet No: 14 of 16
Drawn: JFE	Date: 16 Nov 2010	
Revised:	Date:	

RECEIVED: May. 19, 2011

API Well Number: 43047515240000



Proposed Well	Distance To Nearest Lease Boundary
NBU 1021-29C4BS	837ft
NBU 1021-29F4BS	2,176ft
NBU 1021-29D4BS	835ft
NBU 1021-29E4BS	837ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-29F

TOPO E
NBU 1021-29C4BS, NBU 1021-29F4BS, NBU 1021-29D4BS & NBU 1021-29E4BS
LOCATED IN SECTION 29, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 15 of 16	
Drawn: JFE	Date: 16 Nov 2010		
Revised:	Date:		

RECEIVED: May. 19, 2011

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1021-29F
WELLS – NBU 1021-29C4BS, NBU 1021-29F4BS,
NBU 1021-29D4BS & NBU 1021-29E4BS
Section 29, T10S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and Vernal Avenue in Vernal, Utah, proceed in a westerly direction along U.S. Highway 40 approximately 13.9 miles to the junction of State Highway 88. Exit left and proceed in a southerly direction along State Highway 88 approximately 16.8 miles to Ouray, Utah. From Ouray, proceed in a southerly direction along the Seep Ridge Road (County B Road 2810) approximately 15.4 miles to the intersection of a Class D County Road to the east. Exit left and proceed in an easterly direction along the Class D County Road approximately 1.2 miles to the intersection of the Cottonwood Road (Class D County Road) to the north. Exit left and proceed in a northerly then northeasterly direction along the Cottonwood Road approximately 0.7 miles to a third Class D County Road to the northwest. Exit left and proceed in a northwesterly direction along the third Class D County Road approximately 0.5 miles to the proposed access road. Follow road flags in a northerly direction approximately 2,090 feet to the proposed location.

Total distance from Vernal, Utah to the proposed well location is approximately 48.9 miles in a southerly direction.

RECEIVED: May. 19, 2011

API Well Number: 43047515240000

Scientific Drilling
Rocky Mountain Operations

Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1021-29F PAD
Well: NBU 1021-29C4BS
Wellbore: NBU 1021-29C4BS
Design: PLAN #1 1-26-11 RHS

Anadarko E&P Company LP

WELL DETAILS: NBU 1021-29C4BS

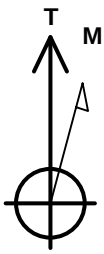
GL 5263' & RKB 4'
@ 5267.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14500546.10	2038837.31	39° 55' 16.561 N	109° 34' 44.479 W

DESIGN TARGET DETAILS

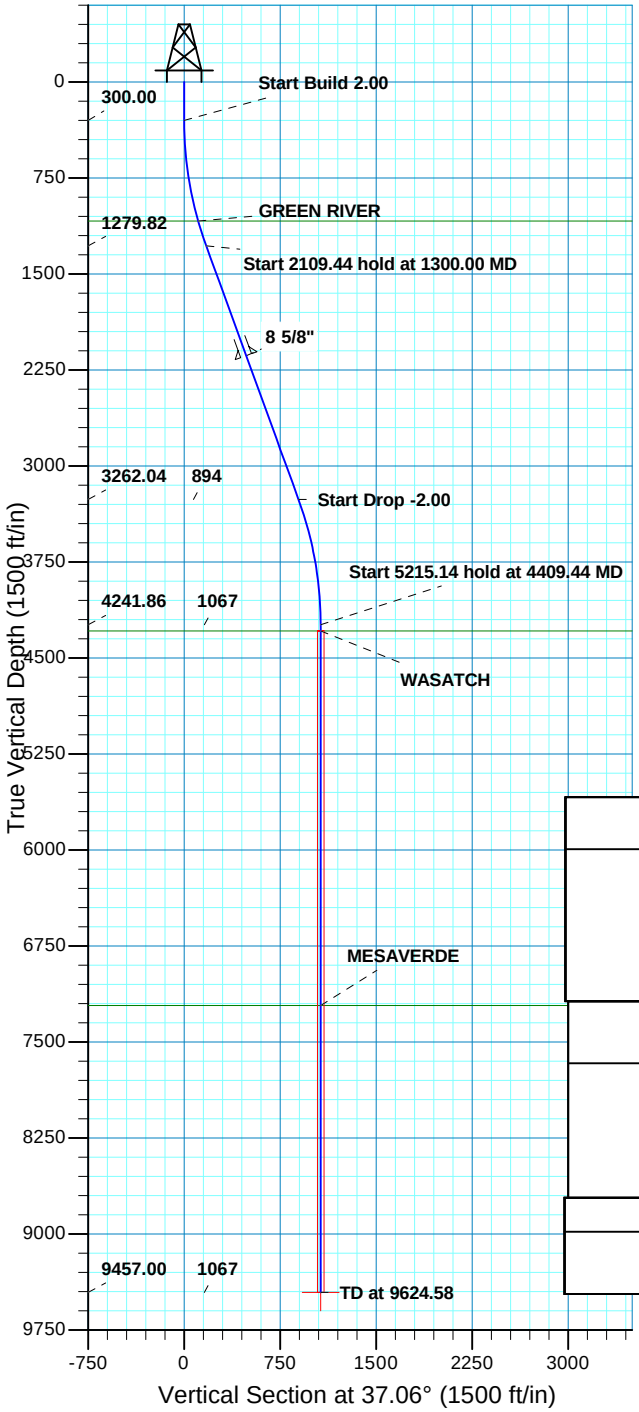
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	9457.00	851.50	643.01	14501407.72	2039466.68	39° 55' 24.978 N	109° 34' 36.224 W	Circle (Radius: 25.00)

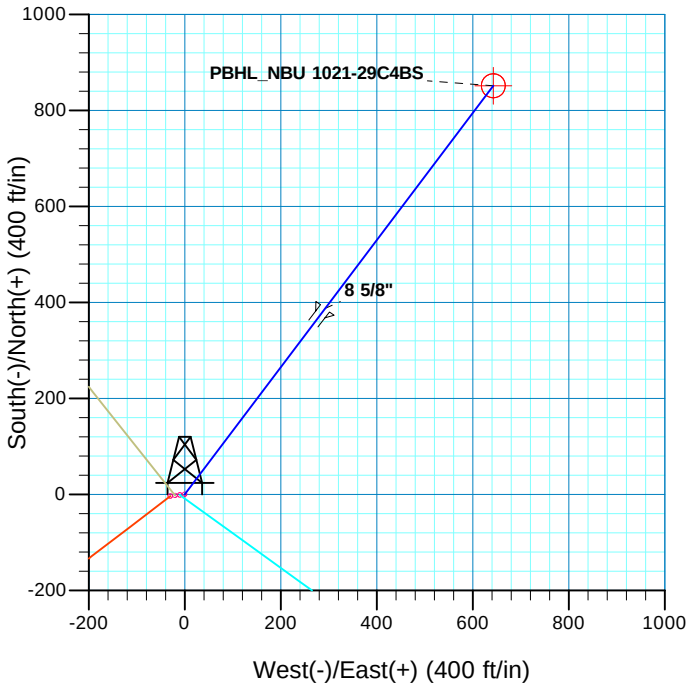
- plan hits target center



Azimuths to True North
Magnetic North: 11.14°

Magnetic Field
Strength: 52311.0snT
Dip Angle: 65.80°
Date: 01/26/2011
Model: IGRF2010





SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
1300.00	20.00	37.06	1279.82	137.87	104.11	2.00	37.06	172.77	
3409.44	20.00	37.06	3262.04	713.63	538.89	0.00	0.00	894.24	
4409.44	0.00	0.00	4241.86	851.50	643.01	2.00	180.00	1067.01	
9624.58	0.00	0.00	9457.00	851.50	643.01	0.00	0.00	1067.01	PBHL_NBU 1021-29C4BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 29 T10S R21E
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1087.00	1097.25	GREEN RIVER
4289.00	4456.58	WASATCH
7216.00	7383.58	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2140.00	2215.39	8 5/8"	8.625

RECEIVED: May. 19, 2011

Plan: PLAN #1 1-26-11 RHS (NBU 1021-29C4BS/NBU 1021-29C4BS)
Created By: RobertScott Date: 17:46, January 26 2011

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1021-29F PAD
NBU 1021-29C4BS

NBU 1021-29C4BS

Plan: PLAN #1 1-26-11 RHS

Standard Planning Report

26 January, 2011

Anadarko E&P Company LP

RECEIVED: May. 19, 2011

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 1021-29F PAD, SECTION 29 T10S R21E

Site Position:		**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
From:	Lat/Long	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well NBU 1021-29C4BS, 1685 FNL 1518 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
	+E/-W	0.00 ft	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,263.00 ft

Wellbore NBU 1021-29C4BS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/26/2011	11.15	65.80	52,311

Design PLAN #1 1-26-11 RHS

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	37.06

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	37.06	1,279.82	137.87	104.11	2.00	2.00	0.00	37.06	
3,409.44	20.00	37.06	3,262.04	713.63	538.89	0.00	0.00	0.00	0.00	
4,409.44	0.00	0.00	4,241.86	851.50	643.01	2.00	-2.00	0.00	180.00	
9,624.58	0.00	0.00	9,457.00	851.50	643.01	0.00	0.00	0.00	0.00	PBHL_NBU 1021-29(

RECEIVED: May. 19, 2011

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	37.06	399.98	1.39	1.05	1.75	2.00	2.00	0.00
500.00	4.00	37.06	499.84	5.57	4.21	6.98	2.00	2.00	0.00
600.00	6.00	37.06	599.45	12.52	9.46	15.69	2.00	2.00	0.00
700.00	8.00	37.06	698.70	22.25	16.80	27.88	2.00	2.00	0.00
800.00	10.00	37.06	797.47	34.73	26.23	43.52	2.00	2.00	0.00
900.00	12.00	37.06	895.62	49.96	37.73	62.60	2.00	2.00	0.00
1,000.00	14.00	37.06	993.06	67.91	51.28	85.10	2.00	2.00	0.00
1,097.25	15.95	37.06	1,087.00	87.96	66.42	110.22	2.00	2.00	0.00
GREEN RIVER									
1,100.00	16.00	37.06	1,089.64	88.56	66.88	110.98	2.00	2.00	0.00
1,200.00	18.00	37.06	1,185.27	111.89	84.50	140.21	2.00	2.00	0.00
1,300.00	20.00	37.06	1,279.82	137.87	104.11	172.77	2.00	2.00	0.00
Start 2109.44 hold at 1300.00 MD									
1,400.00	20.00	37.06	1,373.78	165.17	124.73	206.97	0.00	0.00	0.00
1,500.00	20.00	37.06	1,467.75	192.46	145.34	241.17	0.00	0.00	0.00
1,600.00	20.00	37.06	1,561.72	219.75	165.95	275.37	0.00	0.00	0.00
1,700.00	20.00	37.06	1,655.69	247.05	186.56	309.58	0.00	0.00	0.00
1,800.00	20.00	37.06	1,749.66	274.34	207.17	343.78	0.00	0.00	0.00
1,900.00	20.00	37.06	1,843.63	301.64	227.78	377.98	0.00	0.00	0.00
2,000.00	20.00	37.06	1,937.60	328.93	248.39	412.18	0.00	0.00	0.00
2,100.00	20.00	37.06	2,031.57	356.23	269.00	446.38	0.00	0.00	0.00
2,200.00	20.00	37.06	2,125.54	383.52	289.61	480.59	0.00	0.00	0.00
2,215.39	20.00	37.06	2,140.00	387.72	292.79	485.85	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	37.06	2,219.51	410.81	310.22	514.79	0.00	0.00	0.00
2,400.00	20.00	37.06	2,313.48	438.11	330.84	548.99	0.00	0.00	0.00
2,500.00	20.00	37.06	2,407.45	465.40	351.45	583.19	0.00	0.00	0.00
2,600.00	20.00	37.06	2,501.42	492.70	372.06	617.39	0.00	0.00	0.00
2,700.00	20.00	37.06	2,595.39	519.99	392.67	651.60	0.00	0.00	0.00
2,800.00	20.00	37.06	2,689.35	547.28	413.28	685.80	0.00	0.00	0.00
2,900.00	20.00	37.06	2,783.32	574.58	433.89	720.00	0.00	0.00	0.00
3,000.00	20.00	37.06	2,877.29	601.87	454.50	754.20	0.00	0.00	0.00
3,100.00	20.00	37.06	2,971.26	629.17	475.11	788.40	0.00	0.00	0.00
3,200.00	20.00	37.06	3,065.23	656.46	495.72	822.61	0.00	0.00	0.00
3,300.00	20.00	37.06	3,159.20	683.75	516.34	856.81	0.00	0.00	0.00
3,400.00	20.00	37.06	3,253.17	711.05	536.95	891.01	0.00	0.00	0.00
3,409.44	20.00	37.06	3,262.04	713.63	538.89	894.24	0.00	0.00	0.00
Start Drop -2.00									
3,500.00	18.19	37.06	3,347.61	737.26	556.74	923.86	2.00	-2.00	0.00
3,600.00	16.19	37.06	3,443.14	760.85	574.55	953.41	2.00	-2.00	0.00
3,700.00	14.19	37.06	3,539.65	781.75	590.34	979.61	2.00	-2.00	0.00
3,800.00	12.19	37.06	3,637.00	799.96	604.09	1,002.43	2.00	-2.00	0.00
3,900.00	10.19	37.06	3,735.10	815.45	615.78	1,021.83	2.00	-2.00	0.00
4,000.00	8.19	37.06	3,833.81	828.19	625.40	1,037.80	2.00	-2.00	0.00
4,100.00	6.19	37.06	3,933.02	838.17	632.95	1,050.31	2.00	-2.00	0.00
4,200.00	4.19	37.06	4,032.60	845.39	638.40	1,059.36	2.00	-2.00	0.00

Scientific Drilling
Rocky Mountain Operations

SDI
Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,300.00	2.19	37.06	4,132.44	849.83	641.75	1,064.92	2.00	-2.00	0.00
4,400.00	0.19	37.06	4,232.42	851.49	643.00	1,066.99	2.00	-2.00	0.00
4,409.44	0.00	0.00	4,241.86	851.50	643.01	1,067.01	2.00	-2.00	0.00
Start 5215.14 hold at 4409.44 MD									
4,456.58	0.00	0.00	4,289.00	851.50	643.01	1,067.01	0.00	0.00	0.00
WASATCH									
4,500.00	0.00	0.00	4,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
4,600.00	0.00	0.00	4,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
4,700.00	0.00	0.00	4,532.42	851.50	643.01	1,067.01	0.00	0.00	0.00
4,800.00	0.00	0.00	4,632.42	851.50	643.01	1,067.01	0.00	0.00	0.00
4,900.00	0.00	0.00	4,732.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,000.00	0.00	0.00	4,832.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,100.00	0.00	0.00	4,932.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,200.00	0.00	0.00	5,032.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,300.00	0.00	0.00	5,132.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,400.00	0.00	0.00	5,232.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,500.00	0.00	0.00	5,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,600.00	0.00	0.00	5,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,700.00	0.00	0.00	5,532.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,800.00	0.00	0.00	5,632.42	851.50	643.01	1,067.01	0.00	0.00	0.00
5,900.00	0.00	0.00	5,732.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,000.00	0.00	0.00	5,832.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,100.00	0.00	0.00	5,932.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,200.00	0.00	0.00	6,032.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,300.00	0.00	0.00	6,132.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,400.00	0.00	0.00	6,232.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,500.00	0.00	0.00	6,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,600.00	0.00	0.00	6,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,700.00	0.00	0.00	6,532.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,800.00	0.00	0.00	6,632.42	851.50	643.01	1,067.01	0.00	0.00	0.00
6,900.00	0.00	0.00	6,732.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,000.00	0.00	0.00	6,832.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,100.00	0.00	0.00	6,932.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,200.00	0.00	0.00	7,032.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,300.00	0.00	0.00	7,132.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,383.58	0.00	0.00	7,216.00	851.50	643.01	1,067.01	0.00	0.00	0.00
MESAVERDE									
7,400.00	0.00	0.00	7,232.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,500.00	0.00	0.00	7,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,600.00	0.00	0.00	7,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,700.00	0.00	0.00	7,532.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,800.00	0.00	0.00	7,632.42	851.50	643.01	1,067.01	0.00	0.00	0.00
7,900.00	0.00	0.00	7,732.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,000.00	0.00	0.00	7,832.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,100.00	0.00	0.00	7,932.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,200.00	0.00	0.00	8,032.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,300.00	0.00	0.00	8,132.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,400.00	0.00	0.00	8,232.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,500.00	0.00	0.00	8,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,600.00	0.00	0.00	8,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,700.00	0.00	0.00	8,532.42	851.50	643.01	1,067.01	0.00	0.00	0.00
8,800.00	0.00	0.00	8,632.42	851.50	643.01	1,067.01	0.00	0.00	0.00

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Planning Report

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,900.00	0.00	0.00	8,732.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,000.00	0.00	0.00	8,832.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,100.00	0.00	0.00	8,932.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,200.00	0.00	0.00	9,032.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,300.00	0.00	0.00	9,132.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,400.00	0.00	0.00	9,232.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,500.00	0.00	0.00	9,332.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,600.00	0.00	0.00	9,432.42	851.50	643.01	1,067.01	0.00	0.00	0.00
9,624.58	0.00	0.00	9,457.00	851.50	643.01	1,067.01	0.00	0.00	0.00
PBHL_NBU 1021-29C4BS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1021-29C4E - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,457.00	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,215.39	2,140.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,097.25	1,087.00	GREEN RIVER			
4,456.58	4,289.00	WASATCH			
7,383.58	7,216.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	137.87	104.11	Start 2109.44 hold at 1300.00 MD
3,409.44	3,262.04	713.63	538.89	Start Drop -2.00
4,409.44	4,241.86	851.50	643.01	Start 5215.14 hold at 4409.44 MD
9,624.58	9,457.00	851.50	643.01	TD at 9624.58

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US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1021-29F PAD
NBU 1021-29C4BS

NBU 1021-29C4BS

Plan: PLAN #1 1-26-11 RHS

Standard Planning Report - Geographic

26 January, 2011

Anadarko E&P Company LP

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Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site UINTAH_NBU 1021-29F PAD, SECTION 29 T10S R21E

Site Position:		**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
From:	Lat/Long	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well NBU 1021-29C4BS, 1685 FNL 1518 FWL

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
	+E/-W	0.00 ft	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,263.00 ft

Wellbore NBU 1021-29C4BS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/26/2011	11.15	65.80	52,311

Design PLAN #1 1-26-11 RHS

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	37.06

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	37.06	1,279.82	137.87	104.11	2.00	2.00	0.00	37.06	
3,409.44	20.00	37.06	3,262.04	713.63	538.89	0.00	0.00	0.00	0.00	
4,409.44	0.00	0.00	4,241.86	851.50	643.01	2.00	-2.00	0.00	180.00	
9,624.58	0.00	0.00	9,457.00	851.50	643.01	0.00	0.00	0.00	0.00	PBHL_NBU 1021-29(

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Rocky Mountain Operations

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Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
100.00	0.00	0.00	100.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
200.00	0.00	0.00	200.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
300.00	0.00	0.00	300.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
Start Build 2.00									
400.00	2.00	37.06	399.98	1.39	1.05	14,500,547.51	2,038,838.33	39° 55' 16.575 N	109° 34' 44.466 W
500.00	4.00	37.06	499.84	5.57	4.21	14,500,551.74	2,038,841.42	39° 55' 16.616 N	109° 34' 44.425 W
600.00	6.00	37.06	599.45	12.52	9.46	14,500,558.78	2,038,846.56	39° 55' 16.685 N	109° 34' 44.358 W
700.00	8.00	37.06	698.70	22.25	16.80	14,500,568.62	2,038,853.75	39° 55' 16.781 N	109° 34' 44.264 W
800.00	10.00	37.06	797.47	34.73	26.23	14,500,581.25	2,038,862.98	39° 55' 16.905 N	109° 34' 44.143 W
900.00	12.00	37.06	895.62	49.96	37.73	14,500,596.66	2,038,874.23	39° 55' 17.055 N	109° 34' 43.995 W
1,000.00	14.00	37.06	993.06	67.91	51.28	14,500,614.82	2,038,887.50	39° 55' 17.232 N	109° 34' 43.821 W
1,097.25	15.95	37.06	1,087.00	87.96	66.42	14,500,635.11	2,038,902.32	39° 55' 17.431 N	109° 34' 43.627 W
GREEN RIVER									
1,100.00	16.00	37.06	1,089.64	88.56	66.88	14,500,635.72	2,038,902.76	39° 55' 17.437 N	109° 34' 43.621 W
1,200.00	18.00	37.06	1,185.27	111.89	84.50	14,500,659.33	2,038,920.01	39° 55' 17.667 N	109° 34' 43.394 W
1,300.00	20.00	37.06	1,279.82	137.87	104.11	14,500,685.62	2,038,939.21	39° 55' 17.924 N	109° 34' 43.143 W
Start 2109.44 hold at 1300.00 MD									
1,400.00	20.00	37.06	1,373.78	165.17	124.73	14,500,713.23	2,038,959.39	39° 55' 18.194 N	109° 34' 42.878 W
1,500.00	20.00	37.06	1,467.75	192.46	145.34	14,500,740.85	2,038,979.56	39° 55' 18.464 N	109° 34' 42.613 W
1,600.00	20.00	37.06	1,561.72	219.75	165.95	14,500,768.47	2,038,999.73	39° 55' 18.733 N	109° 34' 42.349 W
1,700.00	20.00	37.06	1,655.69	247.05	186.56	14,500,796.09	2,039,019.91	39° 55' 19.003 N	109° 34' 42.084 W
1,800.00	20.00	37.06	1,749.66	274.34	207.17	14,500,823.71	2,039,040.08	39° 55' 19.273 N	109° 34' 41.820 W
1,900.00	20.00	37.06	1,843.63	301.64	227.78	14,500,851.33	2,039,060.25	39° 55' 19.543 N	109° 34' 41.555 W
2,000.00	20.00	37.06	1,937.60	328.93	248.39	14,500,878.95	2,039,080.43	39° 55' 19.813 N	109° 34' 41.290 W
2,100.00	20.00	37.06	2,031.57	356.23	269.00	14,500,906.56	2,039,100.60	39° 55' 20.082 N	109° 34' 41.026 W
2,200.00	20.00	37.06	2,125.54	383.52	289.61	14,500,934.18	2,039,120.78	39° 55' 20.352 N	109° 34' 40.761 W
2,215.39	20.00	37.06	2,140.00	387.72	292.79	14,500,938.43	2,039,123.88	39° 55' 20.394 N	109° 34' 40.721 W
8 5/8"									
2,300.00	20.00	37.06	2,219.51	410.81	310.22	14,500,961.80	2,039,140.95	39° 55' 20.622 N	109° 34' 40.497 W
2,400.00	20.00	37.06	2,313.48	438.11	330.84	14,500,989.42	2,039,161.12	39° 55' 20.892 N	109° 34' 40.232 W
2,500.00	20.00	37.06	2,407.45	465.40	351.45	14,501,017.04	2,039,181.30	39° 55' 21.162 N	109° 34' 39.967 W
2,600.00	20.00	37.06	2,501.42	492.70	372.06	14,501,044.66	2,039,201.47	39° 55' 21.431 N	109° 34' 39.703 W
2,700.00	20.00	37.06	2,595.39	519.99	392.67	14,501,072.28	2,039,221.65	39° 55' 21.701 N	109° 34' 39.438 W
2,800.00	20.00	37.06	2,689.35	547.28	413.28	14,501,099.90	2,039,241.82	39° 55' 21.971 N	109° 34' 39.174 W
2,900.00	20.00	37.06	2,783.32	574.58	433.89	14,501,127.51	2,039,261.99	39° 55' 22.241 N	109° 34' 38.909 W
3,000.00	20.00	37.06	2,877.29	601.87	454.50	14,501,155.13	2,039,282.17	39° 55' 22.511 N	109° 34' 38.644 W
3,100.00	20.00	37.06	2,971.26	629.17	475.11	14,501,182.75	2,039,302.34	39° 55' 22.780 N	109° 34' 38.380 W
3,200.00	20.00	37.06	3,065.23	656.46	495.72	14,501,210.37	2,039,322.52	39° 55' 23.050 N	109° 34' 38.115 W
3,300.00	20.00	37.06	3,159.20	683.75	516.34	14,501,237.99	2,039,342.69	39° 55' 23.320 N	109° 34' 37.851 W
3,400.00	20.00	37.06	3,253.17	711.05	536.95	14,501,265.61	2,039,362.86	39° 55' 23.590 N	109° 34' 37.586 W
3,409.44	20.00	37.06	3,262.04	713.63	538.89	14,501,268.21	2,039,364.77	39° 55' 23.615 N	109° 34' 37.561 W
Start Drop -2.00									
3,500.00	18.19	37.06	3,347.61	737.26	556.74	14,501,292.14	2,039,382.24	39° 55' 23.849 N	109° 34' 37.332 W
3,600.00	16.19	37.06	3,443.14	760.85	574.55	14,501,316.00	2,039,399.67	39° 55' 24.082 N	109° 34' 37.103 W
3,700.00	14.19	37.06	3,539.65	781.75	590.34	14,501,337.15	2,039,415.13	39° 55' 24.289 N	109° 34' 36.901 W
3,800.00	12.19	37.06	3,637.00	799.96	604.09	14,501,355.58	2,039,428.58	39° 55' 24.469 N	109° 34' 36.724 W
3,900.00	10.19	37.06	3,735.10	815.45	615.78	14,501,371.25	2,039,440.03	39° 55' 24.622 N	109° 34' 36.574 W
4,000.00	8.19	37.06	3,833.81	828.19	625.40	14,501,384.14	2,039,449.45	39° 55' 24.748 N	109° 34' 36.450 W
4,100.00	6.19	37.06	3,933.02	838.17	632.95	14,501,394.24	2,039,456.83	39° 55' 24.846 N	109° 34' 36.354 W
4,200.00	4.19	37.06	4,032.60	845.39	638.40	14,501,401.55	2,039,462.16	39° 55' 24.918 N	109° 34' 36.284 W
4,300.00	2.19	37.06	4,132.44	849.83	641.75	14,501,406.04	2,039,465.44	39° 55' 24.962 N	109° 34' 36.241 W

Scientific Drilling
Rocky Mountain Operations

SDI

Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,400.00	0.19	37.06	4,232.42	851.49	643.00	14,501,407.71	2,039,466.67	39° 55' 24.978 N	109° 34' 36.225 W
4,409.44	0.00	0.00	4,241.86	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
Start 5215.14 hold at 4409.44 MD									
4,456.58	0.00	0.00	4,289.00	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
WASATCH									
4,500.00	0.00	0.00	4,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
4,600.00	0.00	0.00	4,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
4,700.00	0.00	0.00	4,532.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
4,800.00	0.00	0.00	4,632.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
4,900.00	0.00	0.00	4,732.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,000.00	0.00	0.00	4,832.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,100.00	0.00	0.00	4,932.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,200.00	0.00	0.00	5,032.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,300.00	0.00	0.00	5,132.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,400.00	0.00	0.00	5,232.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,500.00	0.00	0.00	5,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,600.00	0.00	0.00	5,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,700.00	0.00	0.00	5,532.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,800.00	0.00	0.00	5,632.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
5,900.00	0.00	0.00	5,732.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,000.00	0.00	0.00	5,832.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,100.00	0.00	0.00	5,932.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,200.00	0.00	0.00	6,032.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,300.00	0.00	0.00	6,132.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,400.00	0.00	0.00	6,232.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,500.00	0.00	0.00	6,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,600.00	0.00	0.00	6,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,700.00	0.00	0.00	6,532.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,800.00	0.00	0.00	6,632.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
6,900.00	0.00	0.00	6,732.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,000.00	0.00	0.00	6,832.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,100.00	0.00	0.00	6,932.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,200.00	0.00	0.00	7,032.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,300.00	0.00	0.00	7,132.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,383.58	0.00	0.00	7,216.00	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
MESAVERDE									
7,400.00	0.00	0.00	7,232.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,500.00	0.00	0.00	7,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,600.00	0.00	0.00	7,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,700.00	0.00	0.00	7,532.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,800.00	0.00	0.00	7,632.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
7,900.00	0.00	0.00	7,732.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,000.00	0.00	0.00	7,832.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,100.00	0.00	0.00	7,932.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,200.00	0.00	0.00	8,032.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,300.00	0.00	0.00	8,132.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,400.00	0.00	0.00	8,232.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,500.00	0.00	0.00	8,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,600.00	0.00	0.00	8,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,700.00	0.00	0.00	8,532.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,800.00	0.00	0.00	8,632.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
8,900.00	0.00	0.00	8,732.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W

Scientific Drilling
Rocky Mountain Operations

SDI

Planning Report - Geographic

Anadarko E&P Company LP

Database:	EDM5000-RobertS-Local	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Company:	US ROCKIES REGION PLANNING	**TVD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**MD Reference:**	GL 5263' & RKB 4' @ 5267.00ft (ASSUMED)
Site:	UINTAH_NBU 1021-29F PAD	**North Reference:**	True
Well:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-29C4BS		
Design:	PLAN #1 1-26-11 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,000.00	0.00	0.00	8,832.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,100.00	0.00	0.00	8,932.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,200.00	0.00	0.00	9,032.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,300.00	0.00	0.00	9,132.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,400.00	0.00	0.00	9,232.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,500.00	0.00	0.00	9,332.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,600.00	0.00	0.00	9,432.42	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
9,624.58	0.00	0.00	9,457.00	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W
PBHL_NBU 1021-29C4BS									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1021-29C4E - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,457.00	851.50	643.01	14,501,407.73	2,039,466.68	39° 55' 24.978 N	109° 34' 36.224 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,215.39	2,140.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,097.25	1,087.00	GREEN RIVER			
4,456.58	4,289.00	WASATCH			
7,383.58	7,216.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	137.87	104.11	Start 2109.44 hold at 1300.00 MD
3,409.44	3,262.04	713.63	538.89	Start Drop -2.00
4,409.44	4,241.86	851.50	643.01	Start 5215.14 hold at 4409.44 MD
9,624.58	9,457.00	851.50	643.01	TD at 9624.58

NBU 1021-29C4BS
Surface: 1,685' FNL 1,518' FWL (SE/4NW/4)
BHL: 837' FNL 2,171' FWL (NE/4NW/4)

NBU 1021-29D4BS
Surface: 1,687' FNL 1,498' FWL (SE/4NW/4)
BHL: 838' FNL 835' FWL (NW/4NW/4)

NBU 1021-29E4BS
Surface: 1,689' FNL 1,488' FWL (SE/4NW/4)
BHL: 2,179' FNL 837' FWL (SW/4NW/4)

NBU 1021-29F4BS
Surface: 1,686' FNL 1,508' FWL (SE/4NW/4)
BHL: 2,177' FNL 2,176' FWL (SE/4NW/4)

Pad: NBU 1021-29F
Section 29 T10S R21E
Mineral Lease: ML 21330

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

RECEIVED: May. 19, 2011

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

Approximately ±2,090' (0.4 miles) of new road is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.
Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is ±5,100' and the individual segments are broken up as follows:

±470' (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
±85' (0.02 miles) –New 6" buried gas pipeline from the edge of pad to the proposed 12" gas pipeline.
±4,545' (0.9 miles) –New 12" buried gas pipeline to the previously proposed 12" gas pipeline.

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The total liquid gathering pipeline distance from the separator to the tie in point is ±5,100' and the individual segments are broken up as follows:

±470' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
±4,630' (0.9 miles) –New 6" buried liquid pipeline from the edge of pad to the previously proposed liquid pipeline.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.
No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods of Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E
Ouray #1 SWD in Sec. 1 T9S R21E
NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 33 T9S R21E
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

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The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker, The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs “Reporting Oil and Gas Undesirable Events” rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term “hazardous materials” as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition,

no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where

possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

K. Other Information:

None

M. **Lessee's or Operators' Representative & Certification:**

Danielle Piernot
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernet
Danielle Piernot

March 11, 2011
Date

RECEIVED: May. 19, 2011

Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779

January 17, 2011

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1021-29C4BS
T10S-R21E
Section 29: SENW (Surf), NENW (Bottom)
Surface: 1518' FWL, 1685' FNL
Bottom Hole: 2171' FWL, 837' FNL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 1021-29C4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Robert Spencer
Landman II

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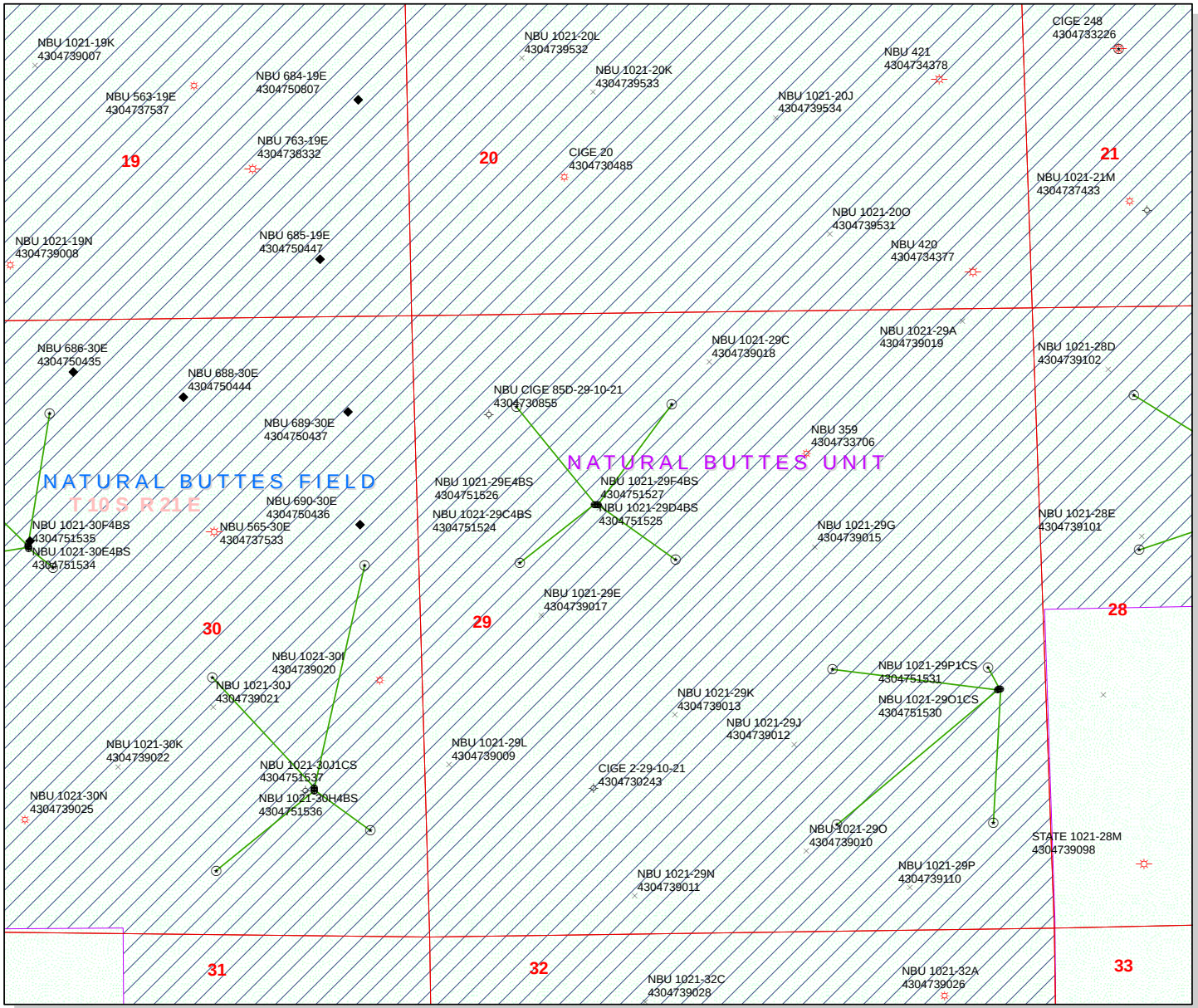


API Number: 4304751524

Well Name: NBU 1021-29C4BS

Township T1.0 . Range R2.1 . Section 29

Meridian: SLBM

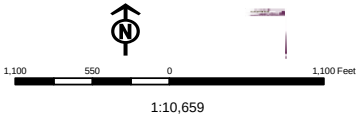
Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields
STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED
- Sections
- Township

Wells Query
Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well



1:10,659

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

March 16, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1021-30P PAD

43-047-51510	NBU 1021-30O4BS	Sec 30 T10S R21E 1179 FSL 0971 FEL
		BHL Sec 30 T10S R21E 0499 FSL 1831 FEL
43-047-51511	NBU 1021-30P1CS	Sec 30 T10S R21E 1189 FSL 0972 FEL
		BHL Sec 30 T10S R21E 0837 FSL 0499 FEL

NBU 1021-32F PAD

43-047-51512	NBU 1021-32C4BS	Sec 32 T10S R21E 1872 FNL 2121 FWL
		BHL Sec 32 T10S R21E 0825 FNL 2188 FWL
43-047-51513	NBU 1021-32D4BS	Sec 32 T10S R21E 1860 FNL 2105 FWL
		BHL Sec 32 T10S R21E 0825 FNL 0842 FWL
43-047-51514	NBU 1021-32E4BS	Sec 32 T10S R21E 1866 FNL 2113 FWL
		BHL Sec 32 T10S R21E 2072 FNL 0841 FWL
43-047-51515	NBU 1021-32F4BS	Sec 32 T10S R21E 1878 FNL 2129 FWL
		BHL Sec 32 T10S R21E 2053 FNL 2191 FWL

NBU 1021-28F PAD

43-047-51516	NBU 1021-28C4BS	Sec 28 T10S R21E 1730 FNL 2213 FWL
		BHL Sec 28 T10S R21E 0831 FNL 2151 FWL

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API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51517	NBU 1021-28D4BS	Sec 28 T10S R21E 1726 FNL 2204 FWL
		BHL Sec 28 T10S R21E 0834 FNL 0827 FWL
43-047-51518	NBU 1021-28E4BS	Sec 28 T10S R21E 1733 FNL 2222 FWL
		BHL Sec 28 T10S R21E 2168 FNL 0828 FWL
43-047-51519	NBU 1021-28F4BS	Sec 28 T10S R21E 1736 FNL 2232 FWL
		BHL Sec 28 T10S R21E 2163 FNL 2153 FWL
NBU 1021-28H PAD		
43-047-51520	NBU 1021-28A4BS	Sec 28 T10S R21E 2029 FNL 0866 FEL
		BHL Sec 28 T10S R21E 0828 FNL 0496 FEL
43-047-51521	NBU 1021-28B4BS	Sec 28 T10S R21E 2038 FNL 0871 FEL
		BHL Sec 28 T10S R21E 0830 FNL 1820 FEL
43-047-51522	NBU 1021-28G4BS	Sec 28 T10S R21E 2047 FNL 0876 FEL
		BHL Sec 28 T10S R21E 2158 FNL 1822 FEL
43-047-51523	NBU 1021-28H4BS	Sec 28 T10S R21E 2056 FNL 0880 FEL
		BHL Sec 28 T10S R21E 2153 FNL 0497 FEL
NBU 1021-29F PAD		
43-047-51524	NBU 1021-29C4BS	Sec 29 T10S R21E 1685 FNL 1518 FWL
		BHL Sec 29 T10S R21E 0837 FNL 2171 FWL
43-047-51525	NBU 1021-29D4BS	Sec 29 T10S R21E 1687 FNL 1498 FWL
		BHL Sec 29 T10S R21E 0838 FNL 0835 FWL
43-047-51526	NBU 1021-29E4BS	Sec 29 T10S R21E 1689 FNL 1488 FWL
		BHL Sec 29 T10S R21E 2179 FNL 0837 FWL
43-047-51527	NBU 1021-29F4BS	Sec 29 T10S R21E 1686 FNL 1508 FWL
		BHL Sec 29 T10S R21E 2177 FNL 2176 FWL
NBU 1021-29I		
43-047-51528	NBU 1021-29I1CS	Sec 29 T10S R21E 1988 FSL 0409 FEL
		BHL Sec 29 T10S R21E 2173 FSL 0503 FEL
43-047-51529	NBU 1021-29J1CS	Sec 29 T10S R21E 1980 FSL 0427 FEL
		BHL Sec 29 T10S R21E 2175 FSL 1844 FEL
43-047-51530	NBU 1021-29O1CS	Sec 29 T10S R21E 1984 FSL 0418 FEL
		BHL Sec 29 T10S R21E 0837 FSL 1849 FEL
43-047-51531	NBU 1021-29P1CS	Sec 29 T10S R21E 1993 FSL 0400 FEL
		BHL Sec 29 T10S R21E 0836 FSL 0504 FEL

RECEIVED: May. 19, 2011

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 1021-30F

43-047-51532 NBU 1021-30C4BS Sec 30 T10S R21E 1954 FNL 1948 FWL
BHL Sec 30 T10S R21E 0826 FNL 2156 FWL

43-047-51533 NBU 1021-30D4BS Sec 30 T10S R21E 1964 FNL 1950 FWL
BHL Sec 30 T10S R21E 0821 FNL 0829 FWL

43-047-51534 NBU 1021-30E4BS Sec 30 T10S R21E 1973 FNL 1951 FWL
BHL Sec 30 T10S R21E 2136 FNL 0830 FWL

43-047-51535 NBU 1021-30F4BS Sec 30 T10S R21E 1983 FNL 1953 FWL
BHL Sec 30 T10S R21E 2150 FNL 2159 FWL

1021-30P PAD

43-047-51536 NBU 1021-30H4BS Sec 30 T10S R21E 1199 FSL 0972 FEL
BHL Sec 30 T10S R21E 2175 FNL 0498 FEL

43-047-51537 NBU 1021-30J1CS Sec 30 T10S R21E 1209 FSL 0973 FEL
BHL Sec 30 T10S R21E 2162 FSL 1828 FEL

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2011.03.16 12:35:54 -06'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:3-16-11

RECEIVED: May. 19, 2011

From: Jim Davis
To: Bonner, Ed; Garrison, LaVonne; Hill, Brad; Mason, Diana
CC: Jacobsen, Julie; Lytle, Andy; Piernot, Danielle
Date: 4/28/2011 2:24 PM
Subject: Kerr McGee APD approvals (28)

The following APDs have been approved by SITLA including arch clearance. Paleo clearance is granted with the stipulations noted below.

These wells are approved with out stipulation.
4304751536 NBU 1021-30H4BS
4304751537 NBU 1021-30J1CS
4304751510 NBU 1021-30O4BS
4304751511 NBU 1021-30P1CS
4304751512 NBU 1021-32C4BS
4304751513 NBU 1021-32D4BS
4304751514 NBU 1021-32E4BS
4304751515 NBU 1021-32F4BS

A permitted paleontologist needs to be on-site to observe construction of these wells/ pads.
4304751516 NBU 1021-28C4BS
4304751517 NBU 1021-28D4BS
4304751518 NBU 1021-28E4BS
4304751519 NBU 1021-28F4BS
4304751520 NBU 1021-28A4BS
4304751521 NBU 1021-28B4BS
4304751522 NBU 1021-28G4BS
4304751523 NBU 1021-28H4BS
4304751524 NBU 1021-29C4BS
4304751525 NBU 1021-29D4BS
4304751526 NBU 1021-29E4BS
4304751527 NBU 1021-29F4BS
4304751528 NBU 1021-29I1CS
4304751529 NBU 1021-29J1CS
4304751530 NBU 1021-29O1CS
4304751531 NBU 1021-29P1CS
4304751532 NBU 1021-30C4BS
4304751533 NBU 1021-30D4BS
4304751534 NBU 1021-30E4BS
4304751535 NBU 1021-30F4BS

-Jim Davis

RECEIVED: May. 19, 2011

API Well Number: 43047515240000

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-29C4BS 43047515240000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-29C4B			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2069	9457		
Previous Shoe Setting Depth (TVD)	40	2069		
Max Mud Weight (ppg)	8.6	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	6052	12.3		

Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	925		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	677	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	470	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	479	NO	Reasonable depth in area
Required Casing/BOPE Test Pressure=		2069	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient	

Calculations	Prod String	4.500	"	
Max BHP (psi)	.052*Setting Depth*MW=	6147		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5012	NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4066	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4522	NO	
Required Casing/BOPE Test Pressure=		5000	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		2069	psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	

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***Max Pressure Allowed @ Previous Casing Shoe=**		psi *Assumes 1psi/ft frac gradient

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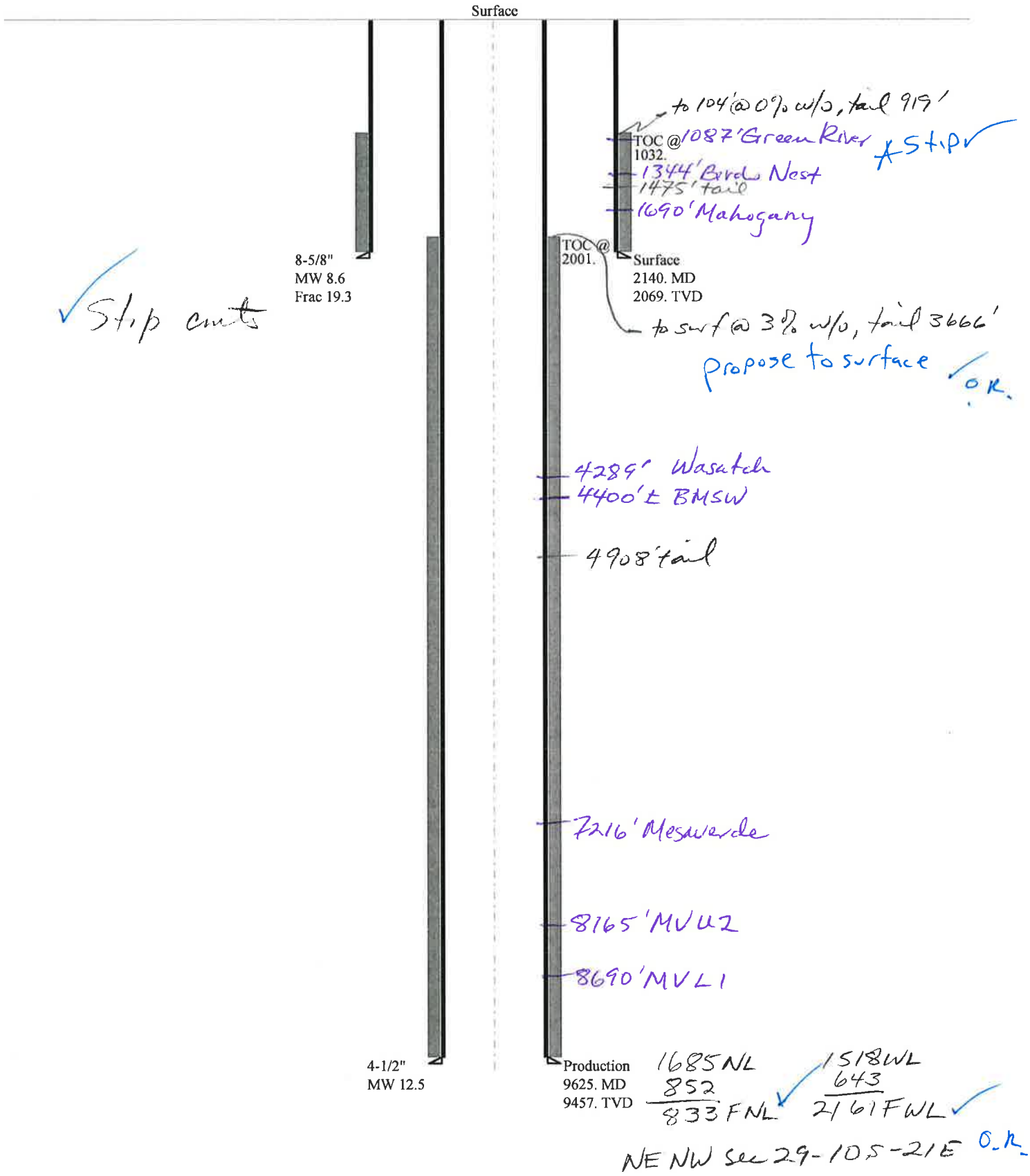
43047515240000 NBU 1021-29C4BS

Casing Schematic



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Well name:	**43047515240000 NBU 1021-29C4BS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Surface
Project ID:	43-047-51524
Location:	UINTAH COUNTY

Design parameters:

Collapse
Mud weight: 8.600 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 1,883 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,131 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 1,861 ft

Environment:
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 103 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,032 ft

Directional Info - Build & Drop
Kick-off point 300 ft
Departure at shoe: 460 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 20 °

Re subsequent strings:
Next setting depth: 9,457 ft
Next mud weight: 12.500 ppg
Next setting BHP: 6,141 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,140 ft
Injection pressure: 2,140 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	2140	8.625	28.00	I-55	LT&C	2069	2140	7.892	84744

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	924	1880	2.034	2131	3390	1.59	57.9	348	6.01 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: May 18,2011
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 2069 ft, a mud weight of 8.6 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

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Well name:	**43047515240000 NBU 1021-29C4BS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-51524
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight:	12.500 ppg
Internal fluid density:	1.000 ppg

Burst

Max anticipated surface pressure:	4,061 psi
Internal gradient:	0.220 psi/ft
Calculated BHP	6,141 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor	1.125

Burst:

Design factor	1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.60 (B)

Tension is based on air weight.
Neutral point: 7,858 ft

Environment:

H2S considered?	No
Surface temperature:	74 °F
Bottom hole temperature:	206 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	100 ft
Cement top:	2,001 ft

Directional Info - Build & Drop

Kick-off point	300 ft
Departure at shoe:	1067 ft
Maximum dogleg:	2 °/100ft
Inclination at shoe:	0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	9625	4.5	11.60	I-80	LT&C	9457	9625	3.875	127050

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5650	6360	1.126	6141	7780	1.27	109.7	212	1.93 J

Prepared by: Helen Sadik-Macdonald, Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: May 18,2011
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 9457 ft, a mud weight of 12.5 ppg An internal gradient of .052 psi/ft was used for collapse from TD
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

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ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.								
Well Name	NBU 1021-29C4BS								
API Number	43047515240000		**APD No**	3538	**Field/Unit**	NATURAL BUTTES			
Location: 1/4,1/4	SENW	**Sec** 29	**Tw** 10.0S	**Rng** 21.0E	1685	FNL	1518	FWL	
GPS Coord (UTM)	621440 4419104		**Surface Owner**						

Participants

See other comments

Regional/Local Setting & Topography

The general area is within the Natural Buttes Unit in the middle portion of the Cottonwood Wash Drainage of Uintah County. The area is characterized by rolling hills and benches which are frequently intersected by somewhat gentle draws. The draws are occasionally rimed with steep side hills which have exposed sand stone bedrock cliffs along the rims. Cottonwood Wash is an ephemeral drainage, which drains northerly approximately 6 miles to the White River. No seeps, springs or streams exist in the area. An occasional pond, constructed to store runoff for wildlife and livestock exists.

This location is approximately 18.0 road miles southeast of Ouray, Utah and 48.7 road miles south of Vernal, Utah. It is accessed by the Seep Ridge Road then by Uintah County and existing or planned oil field development roads to within 2,090 feet of the proposed site. New construction will be required from this point.

The proposed NBU 1021-29F pad will contain 4 gas wells all to be directionally drilled. They are the NBU 1021-29C4BS, NBU 1021-29D4BS, NBU 1021-29E4BS and NBU 1021-29F4BS. The location begins with the reserve pit cut into a ridge to the south. It then extends northerly down a slope and is limited on the north by a deep draw which runs from the southeast to the northwest. A diversion is planned around the hillside beyond the pit continuing to the east and into this draw. This draw joins the draw to the north and continues to the east. An interior swale near corner 1 will be filled during pad construction. Maximum cut for the pad is 25.5 feet at location corner 7 and maximum fill is 10.6 feet at corner 1. During construction the cut slope behind the reserve pit will be left at a steeper grade so as to reduce the disturbance in this area. Cottonwood Wash is about 1/10 mile to the east.

The selected location appears to be a suitable site for drilling and operating a well, and is the best site in the immediate area

Both the surface and minerals for this location are owned by SITLA.

Surface Use Plan

Current Surface Use
Grazing
Recreational
Wildlfe Habitat

New Road Miles	**Well Pad**		**Src Const Material**	**Surface Formation**
0.023	**Width** 353	**Length** 455	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

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Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Vegetation is a desert shrub type. Vegetation included shadscale, broom snakeweed, sagebrush, curly mesquite grass, annual mustard, mat saltbrush, squirrel tail, cheat grass, prickly pear and spring annuals.

Antelope, cattle, rabbits, coyotes, and small mammals, birds and raptors.

Soil Type and Characteristics

Moderately deep sandy loam with small surface pavement.

Erosion Issues N

Sedimentation Issues Y

A diversion is planned around the hillside beyond the pit continuing to the east.

Site Stability Issues N

Drainage Diverson Required? Y

A diversion is planned around the hillside beyond the pit continuing to the east.

Berm Required? N

Erosion Sedimentation Control Required? Y

A diversion is planned around the hillside beyond the pit continuing to the east.

Paleo Survey Run? Y **Paleo Potental Observed?** N **Cultural Survey Run?** Y **Cultural Resources?**

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	40	Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut in the southeast corner of the location. Dimensions are 120’ x 260’ x 12’ deep with 2’ of freeboard and a 15’ outer bench. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

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Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

Floyd Bartlett (DOGM), Jim Davis (SITLA), Clay Einerson, Charles Chase, Roger Perry, Duane Holmes, Kenny Gathings, Andy Lytle and Shelia Wopsock (Kerr McGee), Alex Hansen and Ben Williams (UDWR), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying).

Floyd Bartlett	3/30/2011
Evaluator	**Date / Time**

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Application for Permit to Drill
Statement of Basis

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3538	43047515240000	LOCKED	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		**Surface Owner-APD**		
Well Name	NBU 1021-29C4BS		**Unit**	NATURAL BUTTES	
Field	NATURAL BUTTES		**Type of Work**	DRILL	
Location	SENW 29 10S 21E S 1685 FNL 1518 FWL		GPS Coord (UTM)	621440E	4419780N

Geologic Statement of Basis

Kerr McGee proposes to set 2,140’ of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,400'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 29. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill	4/25/2011
APD Evaluator	**Date / Time**

Surface Statement of Basis

The general area is within the Natural Buttes Unit in the middle portion of the Cottonwood Wash Drainage of Uintah County. The area is characterized by rolling hills and benches which are frequently intersected by somewhat gentle draws. The draws are occasionally rimed with steep side hills which have exposed sand stone bedrock cliffs along the rims. Cottonwood Wash is an ephemeral drainage, which drains northerly approximately 6 miles to the White River. No seeps, springs or streams exist in the area. An occasional pond, constructed to store runoff for wildlife and livestock exists.

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The selected location appears to be a suitable site for drilling and operating a well, and is the best site in the immediate area

Both the surface and minerals for this location are owned by SITLA. Jim Davis of SITLA attended the site visit. He had no concerns regarding the proposal except as noted above. A seed mix to be used in reclamation has previously been provided to Kerr McGee by SITLA for this zone. Ben Williams and Alex Hansen of the UDWR also attended. The area is classified as yearlong crucial habitat for antelope but no restrictions were

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Application for Permit to Drill
Statement of Basis

recommended. No other wildlife species are expected to be significantly affected.

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Floyd Bartlett	3/30/2011
Onsite Evaluator	**Date / Time**

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.

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WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 3/11/2011 **API NO. ASSIGNED:** 43047515240000
WELL NAME: NBU 1021-29C4BS
OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6156
CONTACT: Danielle Piernot

PROPOSED LOCATION: SENW 29 100S 210E **Permit Tech Review:** ✔
SURFACE: 1685 FNL 1518 FWL **Engineering Review:** ✔
BOTTOM: 0837 FNL 2171 FWL **Geology Review:** ✔
COUNTY: UINTAH
LATITUDE: 39.92131 **LONGITUDE:** -109.57901
UTM SURF EASTINGS: 621440.00 **NORTHINGS:** 4419780.00
FIELD NAME: NATURAL BUTTES
LEASE TYPE: 3 - State
LEASE NUMBER: ML 21330 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE
SURFACE OWNER: 3 - State **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ✔ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ✔ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: Cause 173-14
Effective Date: 12/2/1999
Siting: Suspends General Siting

- ✔ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:
3 - Commingling - ddoucet
5 - Statement of Basis - bhill
12 - Cement Volume (3) - ddoucet
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmacdonald

RECEIVED: May. 19, 2011

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 1021-29C4BS
API Well Number: 43047515240000
Lease Number: ML 21330
Surface Owner: STATE
Approval Date: 5/19/2011

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Cement volume for the 4 1/2" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 1940' MD minimum.

Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:

API Well No: 43047515240000

Approved By:

For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 8/21/2011	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEUDLE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 08/21/2011 AT 0900 HRS.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Sheila Wopsock	435 781-7024	Regulatory Analyst
SIGNATURE N/A		**DATE** 8/22/2011

RECEIVED Aug. 22, 2011

SUBMIT AS EMAIL | Print Form

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By ANDY LYTLE Phone Number 720.929.6100
Well Name/Number NBU 1021-29C4BS
Qtr/Qtr SENW Section 29 Township 10S Range 21E
Lease Serial Number ML 21330
API Number 4304751524

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 08/22/2011 08:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☑ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

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AUG 2 2 2011
DIV. OF OIL, GAS & MINING

Date/Time 08/28/2011 00:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

Date/Time _____ _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT 435.828.0986 OR LOVEL YOUNG AT 435.781.7051

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 8/25/2011	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU AIR RIG ON AUGUST 23, 2011. DRILLED SURFACE HOLE TO 2264'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 8/26/2011

RECEIVED Aug. 26, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078
Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751524	NBU 1021-29C4BS		SENW	29	10S	21E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	8/21/2011			8/29/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL ON 08/21/2011 AT 0900 HRS. BHL = NENW

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751527	NBU 1021-29F4BS		SENW	29	10S	21E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	8/21/2011			8/29/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL ON 08/21/2011 AT 1200 HRS. BHL = SENW

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751525	NBU 1021-29D4BS		SENW	29	10S	21E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	8/21/2011			8/29/11	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL ON 08/21/2011 AT 1500 HRS. BHL = NWNW

ACTION CODES:
- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK
Name (Please Print)
Signature
REGULATORY ANALYST
Title
8/22/2011
Date

(5/2000)

RECEIVED
AUG 29 2011
DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779
PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 9/13/2011	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil and Gas Onshore, L.P. requests authorization to drill the above captioned well with a closed-loop mud system. Please see the attached Exhibit A detailing the equipment to be utilized and the procedure. Due to restricting time constraints, Kerr-McGee respectfully requests approval of this sundry by Wednesday, September 14, 2011. Your prompt response to this request is greatly appreciated. Should you have any additional questions or concerns, please contact myself at (720)929-6356, or Danielle Piernot at (720)929-6156.

Approved by the Utah Division of Oil, Gas and Mining

Date: 09/14/2011

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Laura Abrams	720 929-6356	Regulatory Analyst II
SIGNATURE N/A		**DATE** 9/13/2011

RECEIVED Sep. 13, 2011

Exhibit A

Kerr-McGee Oil and Gas Onshore, LP respectfully requests authorization to drill the above captioned well utilizing a closed-loop mud system.

The drilling pit was constructed per the requirements of the Application for Permit to Drill; therefore the liner will be temporarily removed from the pit, the pit will be partially backfilled, and liner will be re-set. All other aspects of the pit shall remain the same.

Equipment for the closed-loop system will be as follows:

- 2 HS-3400 Centrifuge
- 1 Conical Clarifying Tank
- 1 Polymer/Flocculation Unit
- 1 Catch Tank for Solids
- 1 4x3 Centrifugal Pump

Storage Tank Roll (6 frac tanks - 4 water, 2 mud):
- 1 4x3 Centrifugal Pump
- 1 Manifold
- 8 3-inch hose/20 foot section x qty 8 (estimate)
- 8 4-inch hose/20 foot section x qty 8 (estimate)

A 250 KW Generator (est. 20 gal/hr fuel rate) and a Power Distribution Panel will be utilized if deemed necessary.

RECEIVED Sep. 13, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
✓ DRILLING REPORT Report Date: 9/26/2011	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU ROTARY RIG. FINISHED DRILLING FROM 2264' TO 9685' ON SEPT. 24, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 311 ON SEPT. 26, 2011 @ 1800 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 9/27/2011

RECEIVED Sep. 27, 2011

BLM - Vernal Field Office - Notification Form

Operator KERR MCGEE Rig Name/# H&P 311
Submitted By SCOTT ALLRED Phone Number 435- 790-1884
Well Name/Number NBU 1021-29C4BS
Qtr/Qtr SE/NW Section 29 Township 10S Range 21E
Lease Serial Number ML-21330
API Number 43-047-51524

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 9/25/11 01:00 AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

☐ Surface Casing
☐ Intermediate Casing
☒ Production Casing
☐ Liner
☐ Other

RECEIVED
SEP 27 2011
DIV. OF OIL, GAS & MINING

Date/Time _ __ AM ☐ PM ☐

BOPE

☐ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time _____ _____ AM ☐ PM ☒

Remarks TIME ESTIMATED

_____

BLM - Vernal Field Office - Notification Form

Operator KERR MCGEE Rig Name/# H&P 311
Submitted By SCOTT ALLRED Phone Number 435- 790-1884
Well Name/Number NBU 1021-29C4BS
Qtr/Qtr SE/NW Section 29 Township 10S Range 21E
Lease Serial Number ML-21330
API Number 43-047-51524

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time _____ _____ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

☐ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

RECEIVED
SEP 2 0 2011
DIV. OF OIL, GAS & MINING

Date/Time _ __ AM ☐ PM ☐

BOPE

☒ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time 09/18/2011 11:00 AM ☐ PM ☒

Remarks TIME ESTIMATED

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 10/3/2011	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pit refurb/ ACTS

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. The trucks will unload water into these tanks before the water is placed into the refurbed pit. The purpose of the frac tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. Thank you.

Approved by the Utah Division of Oil, Gas and Mining
Date: 10/05/2011
By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 9/26/2011

Please Review Attached Conditions of Approval

RECEIVED Sep. 26, 2011

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions of Approval Well Number 43047515240000

A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.

RECEIVED Sep. 26, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 9/29/2011	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Jaime Scharnowske	720 929-6304	Regulartory Analyst
SIGNATURE N/A		**DATE** 9/29/2011

RECEIVED Sep. 29, 2011

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 21330

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-29C4BS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047515240000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6514

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 1685 FNL 1518 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 29 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 1/10/2012	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 01/10/2012 AT 1000 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
January 12, 2012

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Sheila Wopsock	435 781-7024	Regulatory Analyst
SIGNATURE N/A		**DATE** 1/12/2012

RECEIVED: Jan. 12, 2012

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ (highlight changes) FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 21330
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME: UTU63047A
8. WELL NAME and NUMBER: NBU 1021-29C4BS
9. API NUMBER: 4304751524
10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 29 10S 21E S
12. COUNTY: UINTAH
13. STATE: UTAH

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ DRY ☐ OTHER
b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER
2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.
3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217
PHONE NUMBER: (720) 929-6304
4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: SENW 1685FNL 1518FWL S29,T10S,R21E
AT TOP PRODUCING INTERVAL REPORTED BELOW: NENW 814 FNL 2150 FWL S29,T10S,R21E
AT TOTAL DEPTH: NENW 844 FNL 2172 FWL S29,T10S,R21E BHL by ItsM

14. DATE SPUDDED: 8/21/2011
15. DATE T.D. REACHED: 9/24/2011
16. DATE COMPLETED: 1/10/2012 ABANDONED ☐ READY TO PRODUCE ☑
17. ELEVATIONS (DF, RKB, RT, GL): 5263 GL
18. TOTAL DEPTH: MD 9,685 TVD 9,476
19. PLUG BACK T.D.: MD 9,628 TVD 9,419
20. IF MULTIPLE COMPLETIONS, HOW MANY? *
21. DEPTH BRIDGE PLUG SET: MD TVD
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)
CBL/CMI/GR/CCL-BHV-SD/DSN/ACTR
23.
WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)
WAS DST RUN? NO ☑ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11	8 5/8" IJ-55	28#	0	2,285		495		0	
7 7/8"	4 1/2" I-80	11.6#	0	9,671		1,697		1740	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,223							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) MESAVERDE	7,694	9,211		
(B) WSMVD				
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
7,694 9,211	0.36	95	Open ☑ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐
			Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7694 - 9211	PUMP 6,117 BBLS SLICK H2O & 122,133 LBS 30/50 OTTAWA SAND
	4 STAGES

29. ENCLOSED ATTACHMENTS:
☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS: PROD

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(5/2000) **(CONTINUED ON BACK)**

31. INITIAL PRODUCTION — **INTERVAL A (As shown in item #26)**

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
1/10/2012	1/11/2012	24		0	570	96	FLOWING

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:
20/64	415	923					0	570	96	PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,075
				BIRD'S NEST	1,376
				MAHOGANY	1,824
				WASATCH	4,526
				MESAVERDE	7,452

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210'of the surface hole was drilled with a 12 ¼" bit. The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) JAIME SCHARNOWSKE TITLE REGULATORY ANALYST

SIGNATURE Jaime Scharnowske DATE 2/9/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011	
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD		Rig Name No: H&P 311/311, PROPETRO 11/11
Event: DRILLING	Start Date: 8/15/2011		End Date: 9/26/2011
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
8/23/2011	14:00 - 0:00	10.00	MIRU	01		P		R/U RASE DERRECK,SET PUMP,AND OUT BUILDINGS PREPARE TO PICK UP 12.25 BHA.
8/24/2011	0:00 - 0:30	0.50	DRLSUR	01	B	P		FINNISH R/U ON NBU 1021-29C4BS
	0:30 - 1:30	1.00	DRLSUR	06	A	P		P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8021 . 7/8 LOBE .17 RPM. M/U 12 1/4" QD507 SN 7133232 1ST RUN, W/ 7-18'S. INSTALL RUBBER
	1:30 - 3:00	1.50	DRLSUR	02	B	P		SPUD SURFACE 08/24/2011 @ 0:130 HRS. DRILL 12 1/4" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 850/600, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB
	3:00 - 3:30	0.50	DRLSUR	06	A	P		TOH,LAY DOWN 12 1/4" BIT
	3:30 - 4:00	0.50		08	A	Z		HYD HOSE RIG BLOW ED ON RIG.
	4:00 - 6:00	2.00	DRLSUR	06	A	P		M/U 11" BIT,P/U DIR. TOOLS & SCRIBE,TIH T/210'
	6:00 - 0:00	18.00	DRLSUR	02	B	P		DRILL 11" SURFACE HOLE F/ 210'-2090' (1880' @ 104'/HR) PSI ON/ OFF 1550/1450, UP/ DOWN/ ROT 80/55/65. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM, CIRCULATING RESERVE PIT
8/25/2011	0:00 - 3:00	3.00	DRLSUR	02	B	P		DRILL 11" SURFACE HOLE F/2090' - 2264'-214' @ 61'/HR) PSI ON/ OFF 1550/1450, UP/ DOWN/ ROT 80/55/65. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE,90 RPM ON MM, CIRCULATING RESERVE PIT TD@ 2304' @03:00
	3:00 - 5:00	2.00	DRLSUR	05	C	P		CIRC & COND HOLE F/LD & 8 5/8" 28# SURF. CSG RUN
	5:00 - 8:00	3.00	DRLSUR	06	D	P		L/D DS,BHA & DIR TOOLS
	8:00 - 9:00	1.00	DRLSUR	12	A			MOVE CATWALK AND PIPE RACKS,MOVE CSG OVER TO WORK AREA,R/U T/RUN 8 5/8" 28# SURF. CSG
	9:00 - 12:00	3.00	DRLSUR	12	C	P		HOLD SAFTEY MEETING,RUN FLOAT SHOE ,SHOE JNT,BAFFLE & 51 JNTS 8 5/8" 28# LT&C CSG W/THE SHOE SET @2264 & THE BAFFLE @2216
	12:00 - 13:00	1.00	DRLSUR	12	A	P		RUN 200' 1" PIPE DOWN ANNULUS,MOVE RIG OFF,INSTALL CEMENT HEAD,R/U PRO PETRO CEMENTERS
	13:00 - 15:00	2.00	DRLSUR	12	E	P		HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 50 BBLS OF 8.4# H20 AHEAD,FULL RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP 170 SX(115 BBLS) 11# 3.82 YIELD LEAD CEMENT, PUMP 200 SX (41 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE),DROP PLUG ON FLY AND DISPLACE W 138 BBLS OF 8.4# H20. LIFT PRESSURE WAS 480 PSI, BUMP PLUG AND HOLD 900 PSI FOR 5 MIN. FLOAT HELD,FULL RETURNS THRU OUT JOB ,33 BBLS LEAD CEMENT TO SURF,CEMENT STAED @ SURFACE
	15:00 - 15:30	0.50	DRLSUR	12	E			TOP OUT THRU 1" PIPE W/125 SKS 15.8 PPG,CLASS "G" CEMENT W/4% CACL2 & 1/4#/SK FLOCELE, CEMENT TO SURF,STAYED @ SURF. (RELEASE RIG @ 15:30 08/25/2011)

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD	Rig Name No: H&P 311/311, PROPETRO 11/11
Event: DRILLING	Start Date: 8/15/2011	End Date: 9/26/2011
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/15/2011	2:00 - 18:00	16.00	DRLPRO	01	A	P		MOVE FROM NBU 1021-29I PAD, SCRAP OFF LOACTION TO INSTALL PLASTIC LINER UNDER RIG, MOVE IN CAMPS
	18:00 - 0:00	6.00	DRLPRO	21	C	P		WAIT ON DAY LIGHT AND WORK ON LOC. LINER
9/16/2011	0:00 - 6:00	6.00	DRLPRO	01	E	P		WAIT ON DAY LIGHT
	6:00 - 18:30	12.50	DRLPRO	01	B	P		RIG UP SET IN MUD TANKS, WATER TANKS, MOTOR SHEDS, BOTH PUMPS, ¼ OF THE SUB
	18:30 - 0:00	5.50	DRLPRO	21	C	P		WAIT ON DAYLIGHT
9/17/2011	0:00 - 6:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	6:00 - 0:00	18.00	DRLPRO	01	B	P		HELD SAFETY MEETING, START UP AND RIG UP, CREWS WORK UNTIL MIDNIGHT SET IN FLOOR HOOK UP LINES, HOOK UP LIGHT PLANT, DAYLIGHTS WILL START @ 06:00
9/18/2011	0:00 - 6:00	6.00	DRLPRO	21	C	P		WAIT ON DAYLIGHT
	6:00 - 0:00	18.00	DRLPRO	01	B	P		RIG UP FLOOR NIPPLE UP BOP'S, ALL HYD LINE AND CABLES, RU STRATA & NOV, FILL WATER TANKS FINISH RUNNING AIR LINES, MODIFY FLOW LINE, AND MUD TANKS.
9/19/2011	0:00 - 1:00	1.00	DRLPRO	01	B	P		MODIFY FLOW LINE AND FINISH RU STRATA
	1:00 - 7:30	6.50	DRLPRO	15	A	P		HOLD SAFTEY MEETING, RU QUICK TEST ,PRESS TEST THE BOP, TIW, DART VALVE, BOP VALVES, PIPE RAMS, BLIND RAMS, CHOKE VALVES, KILL LINE AND STRATA LINES TO 250 PSI LOW/5MIN AND 5000 PSI HIGH/10 MIN. TESTED THE ANNULAR T/250 PSI LOW & 2500 PSI HIGH,TEST 8 5/8" CSG T/1500 PSI (OK)
	7:30 - 18:00	10.50	DRLPRO	06	A	P		SAFETY MEETING AND RU LAY DOWN TRUCK AND PICK UP6000' OF PIPE STAND BACK AND BHA,
	18:00 - 0:00	6.00	DRLPRO	21	D	Z		WAIT ON NOV, REPLACE PVC DRAIN LINE WITH IRON LINE
9/20/2011	0:00 - 11:30	11.50	DRLPRO	21	D	Z		WAIT ON NOV TO REPLACE PVC DRAIN PIPE WITH IRON PIPE
	11:30 - 16:30	5.00	DRLPRO	23		Z		SAFETY MEETING TRAIN ON 3RD PARTY EQUIPMENT FIX LEAKS AND ALINMETS, ADJUST SHAKER SCREENS, SKID RIG FOR ROTATING RUBBER PROPER FIT
	16:30 - 17:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	17:00 - 18:00	1.00	DRLPRO	06	A	P		TRIP IN HOLE
	18:00 - 18:30	0.50	DRLPRO	23	C	P		NEW CREW ORIENTATION WITH STRATA AND NOV
	18:30 - 21:00	2.50	DRLPRO	06	A	P		TRIP IN TAG CEMENT DRILL CEMENT FLOAT @ 2224 AND SHOE 2268
	21:00 - 0:00	3.00	DRLPRO	02	D	P		DRILLED 2285'T/2768',483'/ 3HRS, 161.6'/HR HOOK LOAD PU/SO/ROT 110/75/87 ON/OFF BOTTOM PUMP PRESS.1375/950. ON/OFF BOTTOM TORQUE -4/-7K. WOB/12/25K, RPM 45,- MM/120-TD/165 RPM PUMP 1/2,60/6 SPM, 530 GPM, 26/VIS 8.4 /MW DIFF PRESS. 100 -300

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD	Rig Name No: H&P 311/311, PROPETRO 11/11
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/21/2011	0:00 - 16:00	16.00	DRLPRO	02	D	P		DRILLED2768'T/5194',2426'/ 16 HRS, 151.6'/HR WOB/12/25K, MM/ 84 RPM, 40 TD/ 124 RPM PUMP 1/2 60/60 SPM, 530 GPM, ON/OFF BOTTOM PUMP PRESS. 1600/1400. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 6/4K. HOOK LOAD PU 175K SO 720K ROT 65K 24/VIS 8.5/MW DRILL 2225' SLIDE 201',
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRILLED5194'T/6144',950'/ 7.5 HRS, 126.6'/HR WOB/12/25K, MM/ 112 RPM, 60 TD/ 172 RPM PUMP 1/2 60/60 SPM, 530 GPM, ON/OFF BOTTOM PUMP PRESS. 1600/1400. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 14/14K. HOOK LOAD PU 220K SO 105K ROT147K 24/VIS 8.5/MW DRILL 893' SLIDE 57',
9/22/2011	0:00 - 17:30	17.50	DRLPRO	02	D	P		DRILLED6144'T/7772',1628'/ 17.5 HRS, 93.0'/HR WOB/12/25K, MM/ 112 RPM, 60 TD/ 172 RPM PUMP 1/2 60/60 SPM, 530 GPM, ON/OFF BOTTOM PUMP PRESS. 1600/1400. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 14/14K. HOOK LOAD PU 230K SO 152K ROT165K 26/VIS 8.7/MW DRILL 1577' SLIDE 51',
	17:30 - 18:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DRILLED7772'T/8113',476'/ 6 HRS, 79.3'/HR WOB/12/25K, MM/ 105 RPM,30TD/ 135 RPM PUMP 1 110 SPM, 500 GPM, ON/OFF BOTTOM PUMP PRESS. 1870/1460. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 18/17K. HOOK LOAD PU 276K SO 120K ROT176K 35/VIS 8.8/MW DRILL 591' SLIDE 20',
9/23/2011	0:00 - 18:00	18.00	DRLPRO	02	D	P		DRILLED8113'T/9025',912'/ 18 HRS, 50.6'/HR WOB/12/25K, MM/ 105 RPM,30TD/ 135 RPM PUMP 1 110 SPM, 500 GPM, ON/OFF BOTTOM PUMP PRESS. 1870/1460. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 18/17K. HOOK LOAD PU 276K SO 120K ROT176K 35/VIS 8.8/MW DRILL 892' SLIDE 20',
	18:00 - 18:30	0.50	DRLPRO	07	A	P		RIG SERVICE

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:30 - 0:00	5.50	DRLPRO					DRILLED9025'T/9278',253'/ 5.5 HRS,46'/HR WOB/12/25K, MM/ 100 RPM,45TD/ 145 RPM PUMP 1 110 SPM, 500 GPM, ON/OFF BOTTOM PUMP PRESS. 2300/2100. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 18/17K. HOOK LOAD PU 293K SO 130K ROT189K 39/VIS 9.8/MW DRILL 253' SLIDE 0',
9/24/2011	0:00 - 9:00	9.00	DRLPRO	02	D	P		DRILLED9278'T/ TD 9685',407'/ 9 HRS,45.2'/HR WOB/12/25K, MM/ 100 RPM,45TD/ 145 RPM PUMP 1 110 SPM,475 GPM, ON/OFF BOTTOM PUMP PRESS. 2400/2200. DIFF PRESS. 250-400# ON/OFF BOTTOM TORQUE 18/17K. HOOK LOAD PU 293K SO 130K ROT189K 38/VIS 10.0/MW DRILL 407' SLIDE 0', TD 3' E 8' S
	9:00 - 11:00	2.00	DRLPRO	05	A	P		CIRC. COND HOLE FOR SHORT TRIP AND LOGS
	11:00 - 11:30	0.50	DRLPRO	05	J	P		CHECK FOR FLOW, NO FLOW
	11:30 - 13:00	1.50	DRLPRO	06	E	P		TOOH, PULLED 2 STANDS WORK STUCK PIPE
	13:00 - 16:30	3.50	DRLPRO	06	E	P		SHORT TRIP TO SHOE @2268
	16:30 - 17:30	1.00	DRLPRO	06	E	P		TIH TO 4842 TIGHT HOLE CIRC. AND REAM OUT
	17:30 - 20:00	2.50	DRLPRO	06	E	P		TRIP IN HOLE
	20:00 - 0:00	4.00	DRLPRO	05	A	P		CIRC. AND COND MUD F/ 10# MUD 11# MUD TO RUN LOG,CASING AND CEMENT
9/25/2011	0:00 - 3:00	3.00	DRLPRO	05	C	P		CIRC. AND COND MUD/HOLE INCREASE MUD F/ 10# T/ 11#
	3:00 - 3:30	0.50	DRLPRO	05	J	P		FLOW CHECK NO FLOW
	3:30 - 10:00	6.50	DRLPRO	06	E	P		TRIPPING WIPER RUN TO SHOE, TAG BRIDGE @5132 GOING BACK IN REAM OUT AND TRIP IN
	10:00 - 11:30	1.50	DRLPRO	05	C	P		CIRC. COND. HOLE
	11:30 - 12:00	0.50	DRLPRO	05	J	P		FLOW CHECK NO FLOW
	12:00 - 16:00	4.00	DRLPRO	06	D	P		TOOH PULLED 50K OVER OFF BTM 5 STDS
	16:00 - 17:00	1.00	DRLPRO	06	A	P		LD MWD TOOLS, MUD MOTOR AND BIT
	17:00 - 17:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	17:30 - 22:30	5.00	DRLPRO	11	D	P		SAFETY MEETING RU HALLIBURTON AND RUN TRIPLE COMBO OPEN HOLE LOGS, LOGS TO BTM 6985', LOG OUT
	22:30 - 0:00	1.50	DRLPRO	01	B	P		PULL WEAR BUSHING, SAFTEY MEETING, RU CSG CREW.
9/26/2011	0:00 - 0:30	0.50	DRLPRO	12	C	P		RIG UP CASING CREW
	0:30 - 9:30	9.00	DRLPRO	12	C	P		RUN 229 JTS. 4½ I-80 BTC, 11.60# CASING. SHOE, SHOE JT 42.10' FLOAT COLLAR, 15 CENTRALIZERS EVERY 3RD JT ON BTM 20' MARKERS @ 7435' AND 4502' SET CASIMG @ 9671' MD FLOAT @ 9627' (STUCK CSG @ 5110 WORK FREE) RUN TO BTM.
	9:30 - 10:30	1.00	DRLPRO	05	A	P		CIRC. OUT GAS FOR CEMENT JOB.
	10:30 - 11:30	1.00	DRLPRO	01	E	P		RD CSG CREW
	11:30 - 12:00	0.50	DRLPRO	01	B	P		RU CEMENT CREWS AND EQUIPMENT

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011	
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD		Rig Name No: H&P 311/311, PROPETRO 11/11
Event: DRILLING	Start Date: 8/15/2011		End Date: 9/26/2011
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	12:00 - 15:30	3.50	DRLPRO	12	E			PRESSURE TEST 5000 10 MIN,PUMPED 5 BBL PRE FLUSH H2O, 18 BBLS SCAVENGER 10.#,5.14YD, 20 SKS, 33.94GPS--186 BBLS LEAD,11 #,3.21 YD,327 SKS,19.49 GPS--319 BBLS TAIL, 14.3#,1.31YD,1370 SKS,GPS 5.90. DISPLACED 149 BBLS H2O W/CLAY-CARE ,FINAL LIFT PRESS 3239 PSI, BUMP PLUG T/3995 PSI,HELD FOR 5MIN.BLEED OFF FLOATS HELD--36 BBLS LEAD CEMENT T/SURF, TOP OF TAIL 1809',R/D BJ CEMENTING EQUIP.
	15:30 - 18:00	2.50	DRLPRO	14	A	P		NIPPLE DOWN BOP'S CUT OFF CSG SET SLIPS @ 100K RIG RELEASE @ 18:00 SKID RIG TO 1021-29F4BS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1021-29C4BS RED	**Wellbore No.**	OH
Well Name	NBU 1021-29C4BS	**Wellbore Name**	NBU 1021-29C4BS
Report No.	1	**Report Date**	8/24/2011
Project	UTAH-UINTAH	**Site**	NBU 1021-29F PAD
Rig Name/No.		**Event**	COMPLETION
Start Date	12/31/2011	**End Date**	1/6/2012
Spud Date	8/24/2011	**Active Datum**	RKB @5,288.00usft (above Mean Sea Level)
UWI	SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

1.3 General

Contractor	SUPERIOR WELL SERVICE	**Job Method**		**Supervisor**	KEN WARREN
Perforated Assembly		**Conveyed Method**			

1.4 Initial Conditions

Fluid Type		**Fluid Density**	
Surface Press		**Estimate Res Press**	
TVD Fluid Top		**Fluid Head**	
Hydrostatic Press		**Press Difference**	
Balance Cond	NEUTRAL		

1.5 Summary

Gross Interval	7,694.0 (usft)-9,211.0 (usft	**Start Date/Time**	1/2/2011 12:00AM
No. of Intervals	13	**End Date/Time**	1/8/2011 12:00AM
Total Shots	95	**Net Perforation Interval**	27.00 (usft)
Avg Shot Density	3.52 (shot/ft)	**Final Surface Pressure**	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/8/2011 12:00AM	MESAVERDE/			7,694.0	7,696.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-TS (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
1/7/2011 12:00AM	MESAVERDE/			7,736.0	7,738.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/6/2011 12:00AM	MESAVERDE/			7,789.0	7,791.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/5/2011 12:00AM	MESAVERDE/			7,860.0	7,861.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/4/2011 12:00AM	MESAVERDE/			7,967.0	7,970.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
1/3/2011 12:00AM	MESAVERDE/			8,074.0	8,077.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			8,252.0	8,254.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			8,302.0	8,304.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			8,328.0	8,330.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			8,963.0	8,965.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			9,068.0	9,070.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			9,164.0	9,166.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	
1/2/2011 12:00AM	MESAVERDE/			9,209.0	9,211.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTION	

3 Plots

3.1 Wellbore Schematic

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD	Rig Name No: SWABBCO 6/6
Event: COMPLETION	Start Date: 12/31/2011	End Date: 1/6/2012
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/31/2011	7:00 - 15:00	8.00	COMP	33		P		MIRU B&C TESTERS, FILL SURFACE CSG, P/T 4-1/2 TO 1,000# FOR 15 MIN. W/ 12# LOSS, 3500# W/ 31# LOSS IN 15 MIN, 7,000# W/ 95# LOSS IN 30 MIN. W/ NO COMMMUNICATION UP SUFACE CSG [GOOD TEST]
1/2/2012	8:00 - 16:00	8.00	COMP	37	B	P		HSM, RIGGING UP, MIRU CASED HOLE SOLUTIONS & SUPERIOR FRAC EQUIP, P/U RIH PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE AS PERSAY IN PROCEDURE. SWIFN.
1/3/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, ACCUMULATOR VALVE AWARENESS
	7:15 - 8:15	1.00	COMP	33		P		PRESSURE TESTING SUERFACE LINES. SETTING POP OFFS

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011	
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD		Rig Name No: SWABBCO 6/6
Event: COMPLETION	Start Date: 12/31/2011		End Date: 1/6/2012
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:15 - 8:15	0.00	COMP	36	B	P		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR. ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLIUD, SAND AND CHEMICL VOLUME PUM'D FRAC STG #1] WHP=205#, BRK DN PERFS=4,845#, @=4.7 BPM, INJ RT=49.8, INJ PSI=5,817#, INITIAL ISIP=3,200#, INITIAL FG=.79, FINAL ISIP=3,116#, FINAL FG=.78, AVERAGE RATE=50.3, AVERAGE PRESSURE=5,486#, MAX RATE=51.6, MAX PRESSURE=6,301#, NET PRESSURE INCREASE= -84#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,360', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #2] WHP=670#, BRK DN PERFS=3,080#, @=4.6 BPM, INJ RT=45.3, INJ PSI=6,342#, INITIAL ISIP=2,081#, INITIAL FG=.69, FINAL ISIP=2,851#, FINAL FG=.78, AVERAGE RATE=48.5, AVERAGE PRESSURE=5,715#, MAX RATE=53.2, MAX PRESSURE=6,426#, NET PRESSURE INCREASE=770#, 15/24 61% CALC PERFS OPEN. X OVER TO WIRE LINE PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,107', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW FRAC STG #3] WHP=685#, BRK DN PERFS=6,191#, @=4.8 BPM, INJ RT=45.6, INJ PSI=5,744#, INITIAL ISIP=2,914#, INITIAL FG=.80, FINAL ISIP=3,211#, FINAL FG=.84, AVERAGE RATE=48.8, AVERAGE PRESSURE=5,695#, MAX RATE=49.9, MAX PRESSURE=6,426#, NET PRESSURE INCREASE=770#, 15/24 81% CALC PERFS OPEN. X OVER TO WIRE LINE. SWIFN.
1/4/2012	7:00 - 7:15	0.25	COMP	48		P		HSM, REVIEW PRE FRAC INSTUCTIONS

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011	
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD		Rig Name No: SWABBCO 6/6
Event: COMPLETION	Start Date: 12/31/2011		End Date: 1/6/2012
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:00	7.75	COMP	36				PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,891', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. FRAC STG #4] WHP=505#, BRK DN PERFS=4,164#, @=4.7 BPM, INJ RT=51.9, INJ PSI=5,325#, INITIAL ISIP=1,829#, INITIAL FG=.67, FINAL ISIP=3,050#, FINAL FG=.83, AVERAGE RATE=51.4, AVERAGE PRESSURE=4,979#, MAX RATE=52.3, MAX PRESSURE=5,913#, NET PRESSURE INCREASE=1,221#, 20/23 85% CALC PERFS OPEN. X OVER TO WIRE LINE P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,544' TOTAL FLUID PUMP'D=6,117 BBLS TOTAL SAND PUMP'D=122,133#
1/5/2012	7:00 - 7:15	0.25	COMP	48		P		JSA= TALLEY TUBING
	7:15 - 18:00	10.75	COMP	30		P		MIRU SPOT EQUIP TALLEY & PU TUBING TAG 1 ST PLUG @ 7644' RU PUMP, PWR SWVL & DRILLING HEAD EST CIRC W/ RIG PUMP PLUG #1] DRILL THRU HALLI 8K CBP @ 7644' IN 15 MIN W/ 200# INCREASE PLUG#2] CONTINUE TO RIH TAG SAND @ 7861' (30' FILL) C/O & DRILL HALLI 8K CBP @ 7891' ALMOST THRU CBP SANDLINE PARTED PUH 10' CONTINUE TO CIRC WELL STRAIGHTEN OUT MESS REPAIR SANDLINE THREAD OVER CROWN POUR NEW ROPE SOCKET FINISH DRILLING PLG W/ 100# INCREASE RIH 2 JNTS FLOW WELL 30 MIN TO CLEAN OUT WELL BORE SIW SDFN
1/6/2012	7:00 - 7:15	0.25	COMP	48		P		JSA= LANDING TUBING

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-29C4BS RED	Spud Conductor: 8/21/2011	Spud Date: 8/24/2011	
Project: UTAH-UINTAH	Site: NBU 1021-29F PAD		Rig Name No: SWABBCO 6/6
Event: COMPLETION	Start Date: 12/31/2011		End Date: 1/6/2012
Active Datum: RKB @5,288.00usft (above Mean Sea Level)	UWI: SE/NW/0/10/S/21/E/29/0/0/26/PM/N/1685/W/0/1518/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 12:00	4.75	COMP	30		P		SIWP= 1000 PSI OPEN WELL TO PIT PLUG #3] CONTINUE TO RIH TAG SAND @ 8077 (30' FILL) 'C/O & DRILL THRU HALLI 8K CBP @ 8107' IN 9 MIN W/ 50# INCREASE PLUG #4] CONTINUE TO RIH TAG SAND @ 8340' (20' FILL) C/O & DRILL THRU HALLI 8K CBP @ 8360' IN 12 MIN W/ 200# INCREASE PBTD} CONTINUE TO RIH TO 9526' (NO FILL) POOH LD 42 JNTS LAND TUBING ON HANGER W/ 258 JNTS EOT @ 8222.98' RD FLOOR & TUBING EQUIP ND BOPS NU WELLHEAD PRESS TEST FLOW LINE DROP BALL PUMP OFF BIT @ 2000# SIW TO ALLOW BIT TO FALL TURN WELL OVER TO FBC RD RIG MOVE TO NBU 1021-29F4BS K.B.=.....25.00 HNGR=.....86 258 JNTS 2-3/8" L-80=.....8194.92 POBS=.....2.20 EOT @=.....8222.98 CTAP DEL= 314 JNTS USED= 258 JNTS RETURNED= 56 JNTS TOTAL FLUID PUMPED= 6117 BBLS RIG REC = 2200 BBLS LEFT TO REC= 3917 BBLS

Scientific Drilling
Rocky Mountain Operations

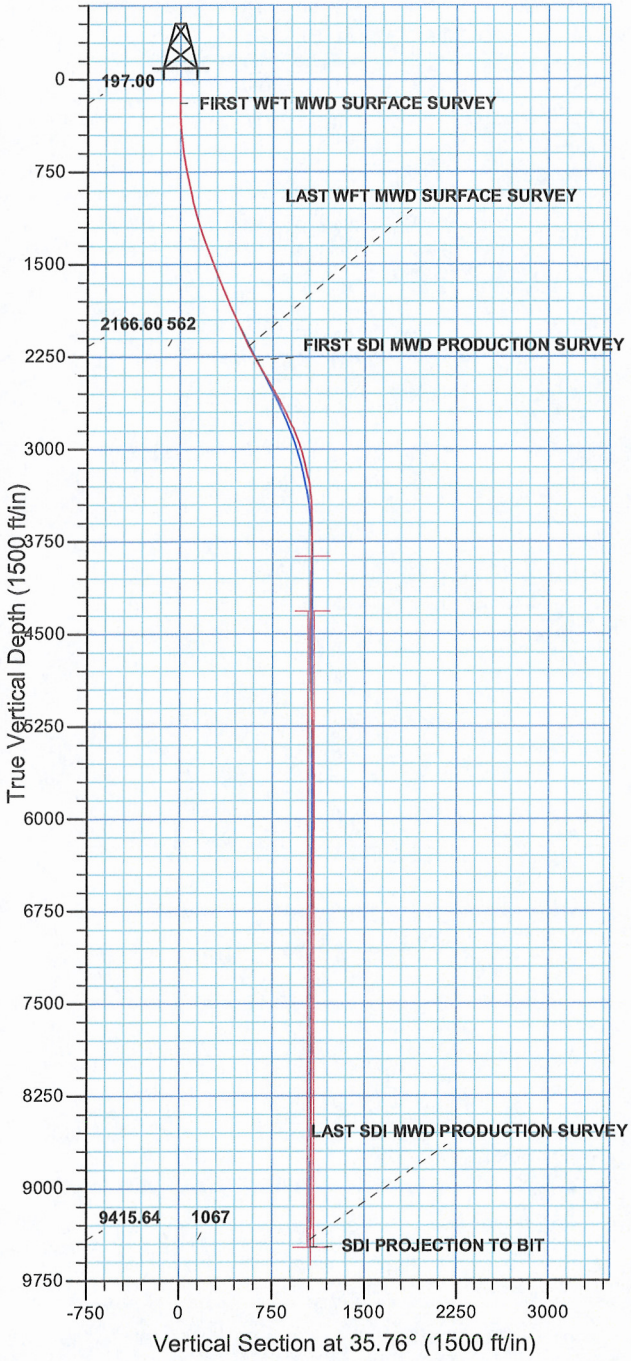
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1021-29F PAD
Well: NBU 1021-29C4BS
Wellbore: NBU 1021-29C4BS
Design: NBU 1021-29C4BS

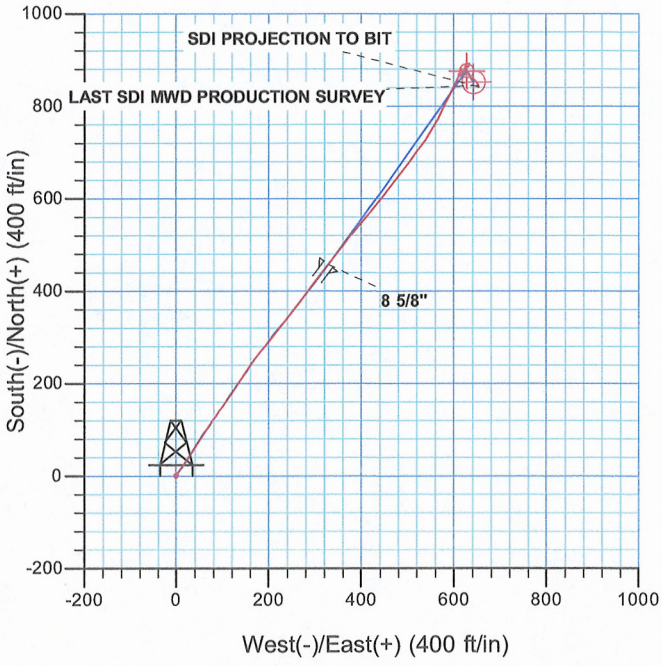
Anadarko Petroleum Corporation

WELL DETAILS: NBU 1021-29C4BS					
GL 5263' & RKB 25' @ 5288.00ft (HP 311)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14500546.10	2038837.31	39° 55' 16.561 N	109° 34' 44.479 W

Azimuths to True North
Magnetic North: 11.14°

Magnetic Field
Strength: 52310.9snT
Dip Angle: 65.80°
Date: 2011/01/26
Model: IGRF2010





PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 29 T10S R21E
System Datum:	Mean Sea Level

Design: NBU 1021-29C4BS (NBU 1021-29C4BS/NBU 1021-29C4BS)
Created By: RobertScott Date: 10:23, October 04 2011

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1021-29F PAD
NBU 1021-29C4BS

NBU 1021-29C4BS

Design: NBU 1021-29C4BS

Standard Survey Report

04 October, 2011

Anadarko
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_NBU 1021-29F PAD, SECTION 29 T10S R21E				
Site Position:		**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
From:	Lat/Long	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well	NBU 1021-29C4BS, 1685 FNL 1518 FWL					
Well Position	**+N/-S**	0.00 ft	**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
	+E/-W	0.00 ft	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,263.00 ft

Wellbore	NBU 1021-29C4BS			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	2011/01/26	11.15	65.80	52,311

Design	NBU 1021-29C4BS				
Audit Notes:					
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.00	0.00	0.00	35.76	

Survey Program **Date** 2011/10/04

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
21.00	2,263.00	Survey #1 WFT MWD SURFACE (NBU 10	MWD	MWD - Standard
2,389.00	9,685.00	Survey #2 SDI MWD PRODUCTION (NBU	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00	0.00	0.00
197.00	0.02	174.63	197.00	-0.03	0.00	-0.02	0.01	0.01	0.00
FIRST WFT MWD SURFACE SURVEY									
283.00	1.94	34.23	282.98	1.16	0.82	1.42	2.27	2.23	-163.26
369.00	3.49	37.23	368.88	4.45	3.23	5.49	1.81	1.80	3.49
459.00	5.06	38.24	458.63	9.74	7.34	12.20	1.75	1.74	1.12
549.00	7.00	36.61	548.13	17.26	13.07	21.65	2.16	2.16	-1.81
639.00	8.81	32.74	637.27	27.47	20.07	34.01	2.10	2.01	-4.30
729.00	10.56	33.11	725.98	40.17	28.30	49.14	1.95	1.94	0.41

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
819.00	11.94	32.61	814.25	54.92	37.82	66.67	1.54	1.53	-0.56
909.00	12.94	31.36	902.14	71.37	48.08	86.01	1.15	1.11	-1.39
999.00	14.00	31.49	989.66	89.26	59.01	106.92	1.18	1.18	0.14
1,089.00	15.06	35.61	1,076.78	108.05	71.51	129.47	1.64	1.18	4.58
1,179.00	16.69	33.61	1,163.35	128.32	85.47	154.08	1.91	1.81	-2.22
1,269.00	18.44	35.49	1,249.15	150.67	100.89	181.23	2.04	1.94	2.09
1,359.00	19.61	35.05	1,334.23	174.63	117.83	210.56	1.31	1.30	-0.49
1,449.00	20.06	33.99	1,418.89	199.79	135.13	241.09	0.64	0.50	-1.18
1,539.00	22.00	32.86	1,502.90	226.75	152.91	273.36	2.20	2.16	-1.26
1,629.00	22.19	35.99	1,586.29	254.66	172.04	307.19	1.32	0.21	3.48
1,719.00	21.63	38.99	1,669.79	281.31	192.47	340.75	1.39	-0.62	3.33
1,809.00	22.19	39.36	1,753.29	307.34	213.68	374.27	0.64	0.62	0.41
1,899.00	22.69	38.74	1,836.48	334.02	235.33	408.57	0.61	0.56	-0.69
1,989.00	23.88	37.11	1,919.14	362.09	257.18	444.12	1.50	1.32	-1.81
2,079.00	24.44	36.49	2,001.26	391.59	279.24	480.95	0.68	0.62	-0.69
2,169.00	26.31	37.49	2,082.57	422.38	302.46	519.51	2.13	2.08	1.11
2,263.00	26.96	37.80	2,166.60	455.75	328.20	561.62	0.71	0.69	0.33
LAST WFT MWD SURFACE SURVEY									
2,389.00	27.70	37.96	2,278.53	501.41	363.72	619.43	0.59	0.59	0.13
FIRST SDI MWD PRODUCTION SURVEY									
2,483.00	30.60	40.07	2,360.62	536.95	392.56	665.13	3.27	3.09	2.24
2,578.00	29.90	38.66	2,442.69	573.95	422.92	712.89	1.05	-0.74	-1.48
2,672.00	29.19	38.31	2,524.46	610.23	451.77	759.19	0.78	-0.76	-0.37
2,766.00	28.75	37.78	2,606.70	646.08	479.83	804.68	0.54	-0.47	-0.56
2,860.00	25.76	38.22	2,690.26	680.00	506.32	847.69	3.19	-3.18	0.47
2,955.00	25.59	34.35	2,775.88	713.16	530.67	888.83	1.77	-0.18	-4.07
3,049.00	23.30	30.93	2,861.45	745.88	551.68	927.66	2.86	-2.44	-3.64
3,144.00	20.84	25.83	2,949.49	777.21	568.71	963.03	3.28	-2.59	-5.37
3,238.00	16.00	26.53	3,038.65	803.87	581.79	992.31	5.15	-5.15	0.74
3,332.00	14.86	24.95	3,129.26	826.39	592.66	1,016.94	1.29	-1.21	-1.68
3,427.00	11.70	26.09	3,221.71	846.09	602.03	1,038.40	3.34	-3.33	1.20
3,521.00	8.79	24.51	3,314.20	861.19	609.21	1,054.85	3.11	-3.10	-1.68
3,615.00	5.28	27.23	3,407.48	871.57	614.17	1,066.17	3.75	-3.73	2.89
3,710.00	2.20	16.78	3,502.27	877.21	616.69	1,072.22	3.31	-3.24	-11.00
3,804.00	0.18	317.98	3,596.24	879.04	617.12	1,073.96	2.25	-2.15	-62.55
3,898.00	0.35	258.83	3,690.24	879.10	616.74	1,073.78	0.32	0.18	-62.93
3,993.00	0.26	201.43	3,785.24	878.84	616.37	1,073.36	0.32	-0.09	-60.42
4,087.00	0.70	218.92	3,879.24	878.20	615.93	1,072.58	0.49	0.47	18.61
4,181.00	0.70	214.44	3,973.23	877.27	615.25	1,071.43	0.06	0.00	-4.77
4,276.00	0.88	198.36	4,068.22	876.10	614.69	1,070.15	0.30	0.19	-16.93
4,370.00	0.97	188.60	4,162.21	874.63	614.34	1,068.76	0.19	0.10	-10.38
4,464.00	1.14	187.20	4,256.19	872.92	614.11	1,067.23	0.18	0.18	-1.49
4,559.00	2.92	215.24	4,351.13	870.00	612.59	1,063.98	2.09	1.87	29.52

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,653.00	1.58	200.64	4,445.06	866.84	610.75	1,060.33	1.54	-1.43	-15.53
4,748.00	0.79	140.97	4,540.04	865.10	610.71	1,058.90	1.44	-0.83	-62.81
4,842.00	1.14	98.95	4,634.03	864.45	612.04	1,059.15	0.81	0.37	-44.70
4,936.00	1.85	44.73	4,728.00	865.38	614.03	1,061.07	1.60	0.76	-57.68
5,031.00	1.93	47.19	4,822.95	867.56	616.28	1,064.15	0.12	0.08	2.59
5,125.00	1.67	49.82	4,916.90	869.52	618.49	1,067.03	0.29	-0.28	2.80
5,219.00	2.64	35.67	5,010.83	872.16	620.80	1,070.52	1.17	1.03	-15.05
5,314.00	2.55	35.67	5,105.74	875.66	623.31	1,074.83	0.09	-0.09	0.00
5,408.00	2.20	40.68	5,199.66	878.72	625.70	1,078.71	0.43	-0.37	5.33
5,502.00	1.67	40.42	5,293.60	881.14	627.77	1,081.88	0.56	-0.56	-0.28
5,596.00	1.58	43.93	5,387.56	883.11	629.55	1,084.53	0.14	-0.10	3.73
5,691.00	1.06	44.20	5,482.54	884.68	631.07	1,086.69	0.55	-0.55	0.28
5,785.00	0.70	71.97	5,576.53	885.49	632.23	1,088.01	0.58	-0.38	29.54
5,880.00	1.58	35.85	5,671.51	886.73	633.55	1,089.79	1.15	0.93	-38.02
5,974.00	1.49	341.00	5,765.48	888.93	633.91	1,091.79	1.51	-0.10	-58.35
6,068.00	1.14	345.49	5,859.46	890.99	633.27	1,093.10	0.39	-0.37	4.78
6,163.00	1.41	261.99	5,954.44	891.75	631.88	1,092.89	1.80	0.28	-87.89
6,257.00	1.14	259.00	6,048.42	891.41	629.82	1,091.41	0.30	-0.29	-3.18
6,352.00	1.14	233.43	6,143.40	890.66	628.13	1,089.82	0.53	0.00	-26.92
6,446.00	1.14	221.12	6,237.38	889.40	626.76	1,088.00	0.26	0.00	-13.10
6,540.00	1.06	201.70	6,331.36	887.89	625.83	1,086.23	0.40	-0.09	-20.66
6,635.00	1.23	197.03	6,426.34	886.10	625.20	1,084.41	0.20	0.18	-4.92
6,729.00	1.23	203.81	6,520.32	884.21	624.50	1,082.47	0.15	0.00	7.21
6,823.00	1.32	192.47	6,614.30	882.23	623.86	1,080.48	0.28	0.10	-12.06
6,918.00	1.58	186.58	6,709.27	879.86	623.47	1,078.33	0.32	0.27	-6.20
7,012.00	1.49	183.15	6,803.23	877.35	623.26	1,076.17	0.14	-0.10	-3.65
7,106.00	1.58	117.59	6,897.21	875.53	624.34	1,075.33	1.77	0.10	-69.74
7,201.00	1.76	118.03	6,992.17	874.24	626.79	1,075.71	0.19	0.19	0.46
7,295.00	1.67	123.91	7,086.12	872.80	629.20	1,075.95	0.21	-0.10	6.26
7,390.00	1.58	131.30	7,181.09	871.16	631.33	1,075.87	0.24	-0.09	7.78
7,484.00	0.35	358.67	7,275.08	870.59	632.30	1,075.97	1.95	-1.31	-141.10
7,578.00	0.18	283.96	7,369.07	870.91	632.15	1,076.15	0.37	-0.18	-79.48
7,673.00	0.26	157.93	7,464.07	870.75	632.09	1,075.98	0.41	0.08	-132.66
7,767.00	0.62	164.43	7,558.07	870.06	632.30	1,075.54	0.39	0.38	6.91
7,861.00	0.79	172.43	7,652.06	868.93	632.52	1,074.75	0.21	0.18	8.51
7,956.00	0.53	357.53	7,747.06	868.72	632.59	1,074.62	1.39	-0.27	-184.11
8,050.00	0.18	152.83	7,841.06	869.02	632.64	1,074.90	0.74	-0.37	165.21
8,145.00	0.70	162.67	7,936.06	868.34	632.88	1,074.48	0.55	0.55	10.36
8,239.00	1.06	168.91	8,030.05	866.94	633.22	1,073.54	0.40	0.38	6.64
8,334.00	1.06	156.70	8,125.03	865.27	633.74	1,072.49	0.24	0.00	-12.85
8,428.00	1.24	156.32	8,219.01	863.54	634.49	1,071.52	0.19	0.19	-0.40
8,522.00	1.23	155.82	8,312.99	861.68	635.31	1,070.50	0.02	-0.01	-0.53
8,616.00	1.06	104.75	8,406.97	860.54	636.56	1,070.31	1.06	-0.18	-54.33
8,711.00	0.70	88.85	8,501.96	860.33	637.99	1,070.97	0.45	-0.38	-16.74

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,805.00	0.97	115.13	8,595.95	860.00	639.29	1,071.46	0.49	0.29	27.96
8,900.00	1.06	131.47	8,690.94	859.08	640.67	1,071.52	0.32	0.09	17.20
8,994.00	1.32	130.77	8,784.92	857.80	642.15	1,071.34	0.28	0.28	-0.74
9,088.00	1.32	131.74	8,878.89	856.37	643.77	1,071.14	0.02	0.00	1.03
9,183.00	1.32	129.10	8,973.87	854.95	645.44	1,070.96	0.06	0.00	-2.78
9,277.00	1.49	136.57	9,067.84	853.38	647.12	1,070.67	0.27	0.18	7.95
9,372.00	1.49	135.43	9,162.81	851.60	648.84	1,070.23	0.03	0.00	-1.20
9,466.00	1.85	142.72	9,256.77	849.53	650.61	1,069.58	0.44	0.38	7.76
9,560.00	2.20	153.53	9,350.71	846.70	652.34	1,068.30	0.55	0.37	11.50
9,625.00	2.99	163.38	9,415.64	843.96	653.38	1,066.68	1.39	1.22	15.15
LAST SDI MWD PRODUCTION SURVEY									
9,685.00	2.99	163.38	9,475.56	840.96	654.27	1,064.77	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
197.00	197.00	-0.03	0.00	FIRST WFT MWD SURFACE SURVEY
2,263.00	2,166.60	455.75	328.20	LAST WFT MWD SURFACE SURVEY
2,389.00	2,278.53	501.41	363.72	FIRST SDI MWD PRODUCTION SURVEY
9,625.00	9,415.64	843.96	653.38	LAST SDI MWD PRODUCTION SURVEY
9,685.00	9,475.56	840.96	654.27	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____

Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N
UINTAH_NBU 1021-29F PAD
NBU 1021-29C4BS

NBU 1021-29C4BS

Design: NBU 1021-29C4BS

Survey Report - Geographic

03 October, 2011

Anadarko
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_NBU 1021-29F PAD, SECTION 29 T10S R21E				
Site Position:		**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
From:	Lat/Long	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.91 °

Well	NBU 1021-29C4BS, 1685 FNL 1518 FWL					
Well Position	**+N/-S**	0.00 ft	**Northing:**	14,500,546.10 usft	**Latitude:**	39° 55' 16.561 N
	+E/-W	0.00 ft	**Easting:**	2,038,837.30 usft	**Longitude:**	109° 34' 44.479 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,263.00 ft

Wellbore	NBU 1021-29C4BS				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	2011/01/26	11.15	65.80	52,311

Design	NBU 1021-29C4BS					
Audit Notes:						
Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**		0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**		
	0.00	0.00	0.00	35.76		

Survey Program **Date** 2011/10/03

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
21.00	2,263.00	Survey #1 WFT MWD SURFACE (NBU 10	MWD	MWD - Standard
2,389.00	9,372.00	Survey #2 SDI MWD PRODUCTION (NBU	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
21.00	0.00	0.00	21.00	0.00	0.00	14,500,546.10	2,038,837.30	39° 55' 16.561 N	109° 34' 44.479 W
197.00	0.02	174.63	197.00	-0.03	0.00	14,500,546.07	2,038,837.31	39° 55' 16.561 N	109° 34' 44.479 W
FIRST WFT MWD SURFACE SURVEY									
283.00	1.94	34.23	282.98	1.16	0.82	14,500,547.27	2,038,838.11	39° 55' 16.573 N	109° 34' 44.469 W
369.00	3.49	37.23	368.88	4.45	3.23	14,500,550.60	2,038,840.46	39° 55' 16.605 N	109° 34' 44.438 W
459.00	5.06	38.24	458.63	9.74	7.34	14,500,555.96	2,038,844.49	39° 55' 16.658 N	109° 34' 44.385 W
549.00	7.00	36.61	548.13	17.26	13.07	14,500,563.57	2,038,850.10	39° 55' 16.732 N	109° 34' 44.311 W
639.00	8.81	32.74	637.27	27.47	20.07	14,500,573.88	2,038,856.93	39° 55' 16.833 N	109° 34' 44.222 W
729.00	10.56	33.11	725.98	40.17	28.30	14,500,586.72	2,038,864.96	39° 55' 16.958 N	109° 34' 44.116 W
819.00	11.94	32.61	814.25	54.92	37.82	14,500,601.62	2,038,874.25	39° 55' 17.104 N	109° 34' 43.994 W

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
909.00	12.94	31.36	902.14	71.37	48.08	14,500,618.23	2,038,884.25	39° 55' 17.267 N	109° 34' 43.862 W
999.00	14.00	31.49	989.66	89.26	59.01	14,500,636.29	2,038,894.89	39° 55' 17.443 N	109° 34' 43.722 W
1,089.00	15.06	35.61	1,076.78	108.05	71.51	14,500,655.28	2,038,907.09	39° 55' 17.629 N	109° 34' 43.561 W
1,179.00	16.69	33.61	1,163.35	128.32	85.47	14,500,675.77	2,038,920.72	39° 55' 17.830 N	109° 34' 43.382 W
1,269.00	18.44	35.49	1,249.15	150.67	100.89	14,500,698.36	2,038,935.79	39° 55' 18.051 N	109° 34' 43.184 W
1,359.00	19.61	35.05	1,334.23	174.63	117.83	14,500,722.58	2,038,952.34	39° 55' 18.287 N	109° 34' 42.967 W
1,449.00	20.06	33.99	1,418.89	199.79	135.13	14,500,748.02	2,038,969.24	39° 55' 18.536 N	109° 34' 42.744 W
1,539.00	22.00	32.86	1,502.90	226.75	152.91	14,500,775.26	2,038,986.58	39° 55' 18.803 N	109° 34' 42.516 W
1,629.00	22.19	35.99	1,586.29	254.66	172.04	14,500,803.47	2,039,005.27	39° 55' 19.078 N	109° 34' 42.271 W
1,719.00	21.63	38.99	1,669.79	281.31	192.47	14,500,830.44	2,039,025.27	39° 55' 19.342 N	109° 34' 42.008 W
1,809.00	22.19	39.36	1,753.29	307.34	213.68	14,500,856.81	2,039,046.07	39° 55' 19.599 N	109° 34' 41.736 W
1,899.00	22.69	38.74	1,836.48	334.02	235.33	14,500,883.83	2,039,067.28	39° 55' 19.863 N	109° 34' 41.458 W
1,989.00	23.88	37.11	1,919.14	362.09	257.18	14,500,912.24	2,039,088.69	39° 55' 20.140 N	109° 34' 41.178 W
2,079.00	24.44	36.49	2,001.26	391.59	279.24	14,500,942.09	2,039,110.28	39° 55' 20.432 N	109° 34' 40.894 W
2,169.00	26.31	37.49	2,082.57	422.38	302.46	14,500,973.25	2,039,133.00	39° 55' 20.736 N	109° 34' 40.596 W
2,263.00	26.96	37.80	2,166.60	455.75	328.20	14,501,007.02	2,039,158.20	39° 55' 21.066 N	109° 34' 40.266 W
LAST WFT MWD SURFACE SURVEY									
2,389.00	27.70	37.96	2,278.53	501.41	363.72	14,501,053.24	2,039,192.99	39° 55' 21.517 N	109° 34' 39.810 W
FIRST SDI MWD PRODUCTION SURVEY									
2,483.00	30.60	40.07	2,360.62	536.95	392.56	14,501,089.24	2,039,221.27	39° 55' 21.869 N	109° 34' 39.440 W
2,578.00	29.90	38.66	2,442.69	573.95	422.92	14,501,126.71	2,039,251.03	39° 55' 22.235 N	109° 34' 39.050 W
2,672.00	29.19	38.31	2,524.46	610.23	451.77	14,501,163.44	2,039,279.30	39° 55' 22.593 N	109° 34' 38.680 W
2,766.00	28.75	37.78	2,606.70	646.08	479.83	14,501,199.74	2,039,306.78	39° 55' 22.948 N	109° 34' 38.319 W
2,860.00	25.76	38.22	2,690.26	680.00	506.32	14,501,234.08	2,039,332.73	39° 55' 23.283 N	109° 34' 37.979 W
2,955.00	25.59	34.35	2,775.88	713.16	530.67	14,501,267.62	2,039,356.55	39° 55' 23.611 N	109° 34' 37.667 W
3,049.00	23.30	30.93	2,861.45	745.88	551.68	14,501,300.67	2,039,377.04	39° 55' 23.934 N	109° 34' 37.397 W
3,144.00	20.84	25.83	2,949.49	777.21	568.71	14,501,332.27	2,039,393.57	39° 55' 24.244 N	109° 34' 37.178 W
3,238.00	16.00	26.53	3,038.65	803.87	581.79	14,501,359.13	2,039,406.22	39° 55' 24.507 N	109° 34' 37.010 W
3,332.00	14.86	24.95	3,129.26	826.39	592.66	14,501,381.82	2,039,416.73	39° 55' 24.730 N	109° 34' 36.871 W
3,427.00	11.70	26.09	3,221.71	846.09	602.03	14,501,401.67	2,039,425.79	39° 55' 24.925 N	109° 34' 36.750 W
3,521.00	8.79	24.51	3,314.20	861.19	609.21	14,501,416.88	2,039,432.73	39° 55' 25.074 N	109° 34' 36.658 W
3,615.00	5.28	27.23	3,407.48	871.57	614.17	14,501,427.34	2,039,437.52	39° 55' 25.176 N	109° 34' 36.595 W
3,710.00	2.20	16.78	3,502.27	877.21	616.69	14,501,433.01	2,039,439.96	39° 55' 25.232 N	109° 34' 36.562 W
3,804.00	0.18	317.98	3,596.24	879.04	617.12	14,501,434.86	2,039,440.35	39° 55' 25.250 N	109° 34' 36.557 W
3,898.00	0.35	258.83	3,690.24	879.10	616.74	14,501,434.91	2,039,439.97	39° 55' 25.251 N	109° 34' 36.562 W
3,993.00	0.26	201.43	3,785.24	878.84	616.37	14,501,434.64	2,039,439.61	39° 55' 25.248 N	109° 34' 36.566 W
4,087.00	0.70	218.92	3,879.24	878.20	615.93	14,501,433.99	2,039,439.18	39° 55' 25.242 N	109° 34' 36.572 W
4,181.00	0.70	214.44	3,973.23	877.27	615.25	14,501,433.06	2,039,438.51	39° 55' 25.233 N	109° 34' 36.581 W
4,276.00	0.88	198.36	4,068.22	876.10	614.69	14,501,431.88	2,039,437.97	39° 55' 25.221 N	109° 34' 36.588 W
4,370.00	0.97	188.60	4,162.21	874.63	614.34	14,501,430.40	2,039,437.65	39° 55' 25.207 N	109° 34' 36.592 W
4,464.00	1.14	187.20	4,256.19	872.92	614.11	14,501,428.68	2,039,437.44	39° 55' 25.190 N	109° 34' 36.595 W
4,559.00	2.92	215.24	4,351.13	870.00	612.59	14,501,425.75	2,039,435.97	39° 55' 25.161 N	109° 34' 36.615 W
4,653.00	1.58	200.64	4,445.06	866.84	610.75	14,501,422.55	2,039,434.18	39° 55' 25.130 N	109° 34' 36.638 W
4,748.00	0.79	140.97	4,540.04	865.10	610.71	14,501,420.81	2,039,434.16	39° 55' 25.112 N	109° 34' 36.639 W
4,842.00	1.14	98.95	4,634.03	864.45	612.04	14,501,420.19	2,039,435.50	39° 55' 25.106 N	109° 34' 36.622 W
4,936.00	1.85	44.73	4,728.00	865.38	614.03	14,501,421.15	2,039,437.48	39° 55' 25.115 N	109° 34' 36.596 W
5,031.00	1.93	47.19	4,822.95	867.56	616.28	14,501,423.36	2,039,439.70	39° 55' 25.137 N	109° 34' 36.567 W
5,125.00	1.67	49.82	4,916.90	869.52	618.49	14,501,425.36	2,039,441.87	39° 55' 25.156 N	109° 34' 36.539 W
5,219.00	2.64	35.67	5,010.83	872.16	620.80	14,501,428.04	2,039,444.14	39° 55' 25.182 N	109° 34' 36.510 W
5,314.00	2.55	35.67	5,105.74	875.66	623.31	14,501,431.57	2,039,446.59	39° 55' 25.217 N	109° 34' 36.477 W
5,408.00	2.20	40.68	5,199.66	878.72	625.70	14,501,434.67	2,039,448.94	39° 55' 25.247 N	109° 34' 36.447 W
5,502.00	1.67	40.42	5,293.60	881.14	627.77	14,501,437.12	2,039,450.96	39° 55' 25.271 N	109° 34' 36.420 W
5,596.00	1.58	43.93	5,387.56	883.11	629.55	14,501,439.12	2,039,452.72	39° 55' 25.290 N	109° 34' 36.397 W
5,691.00	1.06	44.20	5,482.54	884.68	631.07	14,501,440.72	2,039,454.22	39° 55' 25.306 N	109° 34' 36.378 W
5,785.00	0.70	71.97	5,576.53	885.49	632.23	14,501,441.54	2,039,455.36	39° 55' 25.314 N	109° 34' 36.363 W

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,880.00	1.58	35.85	5,671.51	886.73	633.55	14,501,442.80	2,039,456.65	39° 55' 25.326 N	109° 34' 36.346 W
5,974.00	1.49	341.00	5,765.48	888.93	633.91	14,501,445.01	2,039,456.98	39° 55' 25.348 N	109° 34' 36.341 W
6,068.00	1.14	345.49	5,859.46	890.99	633.27	14,501,447.06	2,039,456.32	39° 55' 25.368 N	109° 34' 36.349 W
6,163.00	1.41	261.99	5,954.44	891.75	631.88	14,501,447.79	2,039,454.91	39° 55' 25.376 N	109° 34' 36.367 W
6,257.00	1.14	259.00	6,048.42	891.41	629.82	14,501,447.42	2,039,452.85	39° 55' 25.372 N	109° 34' 36.394 W
6,352.00	1.14	233.43	6,143.40	890.66	628.13	14,501,446.65	2,039,451.18	39° 55' 25.365 N	109° 34' 36.415 W
6,446.00	1.14	221.12	6,237.38	889.40	626.76	14,501,445.37	2,039,449.83	39° 55' 25.353 N	109° 34' 36.433 W
6,540.00	1.06	201.70	6,331.36	887.89	625.83	14,501,443.84	2,039,448.92	39° 55' 25.338 N	109° 34' 36.445 W
6,635.00	1.23	197.03	6,426.34	886.10	625.20	14,501,442.04	2,039,448.32	39° 55' 25.320 N	109° 34' 36.453 W
6,729.00	1.23	203.81	6,520.32	884.21	624.50	14,501,440.14	2,039,447.65	39° 55' 25.301 N	109° 34' 36.462 W
6,823.00	1.32	192.47	6,614.30	882.23	623.86	14,501,438.15	2,039,447.04	39° 55' 25.282 N	109° 34' 36.470 W
6,918.00	1.58	186.58	6,709.27	879.86	623.47	14,501,435.77	2,039,446.69	39° 55' 25.258 N	109° 34' 36.475 W
7,012.00	1.49	183.15	6,803.23	877.35	623.26	14,501,433.26	2,039,446.52	39° 55' 25.234 N	109° 34' 36.478 W
7,106.00	1.58	117.59	6,897.21	875.53	624.34	14,501,431.46	2,039,447.63	39° 55' 25.216 N	109° 34' 36.464 W
7,201.00	1.76	118.03	6,992.17	874.24	626.79	14,501,430.21	2,039,450.10	39° 55' 25.203 N	109° 34' 36.433 W
7,295.00	1.67	123.91	7,086.12	872.80	629.20	14,501,428.80	2,039,452.53	39° 55' 25.189 N	109° 34' 36.402 W
7,390.00	1.58	131.30	7,181.09	871.16	631.33	14,501,427.20	2,039,454.69	39° 55' 25.172 N	109° 34' 36.374 W
7,484.00	0.35	358.67	7,275.08	870.59	632.30	14,501,426.65	2,039,455.66	39° 55' 25.167 N	109° 34' 36.362 W
7,578.00	0.18	283.96	7,369.07	870.91	632.15	14,501,426.97	2,039,455.51	39° 55' 25.170 N	109° 34' 36.364 W
7,673.00	0.26	157.93	7,464.07	870.75	632.09	14,501,426.80	2,039,455.45	39° 55' 25.168 N	109° 34' 36.365 W
7,767.00	0.62	164.43	7,558.07	870.06	632.30	14,501,426.12	2,039,455.68	39° 55' 25.162 N	109° 34' 36.362 W
7,861.00	0.79	172.43	7,652.06	868.93	632.52	14,501,424.99	2,039,455.92	39° 55' 25.150 N	109° 34' 36.359 W
7,956.00	0.53	357.53	7,747.06	868.72	632.59	14,501,424.78	2,039,455.99	39° 55' 25.148 N	109° 34' 36.358 W
8,050.00	0.18	152.83	7,841.06	869.02	632.64	14,501,425.09	2,039,456.03	39° 55' 25.151 N	109° 34' 36.357 W
8,145.00	0.70	162.67	7,936.06	868.34	632.88	14,501,424.40	2,039,456.28	39° 55' 25.144 N	109° 34' 36.354 W
8,239.00	1.06	168.91	8,030.05	866.94	633.22	14,501,423.01	2,039,456.64	39° 55' 25.131 N	109° 34' 36.350 W
8,334.00	1.06	156.70	8,125.03	865.27	633.74	14,501,421.35	2,039,457.19	39° 55' 25.114 N	109° 34' 36.343 W
8,428.00	1.24	156.32	8,219.01	863.54	634.49	14,501,419.63	2,039,457.97	39° 55' 25.097 N	109° 34' 36.334 W
8,522.00	1.23	155.82	8,312.99	861.68	635.31	14,501,417.79	2,039,458.82	39° 55' 25.079 N	109° 34' 36.323 W
8,616.00	1.06	104.75	8,406.97	860.54	636.56	14,501,416.67	2,039,460.09	39° 55' 25.067 N	109° 34' 36.307 W
8,711.00	0.70	88.85	8,501.96	860.33	637.99	14,501,416.48	2,039,461.52	39° 55' 25.065 N	109° 34' 36.289 W
8,805.00	0.97	115.13	8,595.95	860.00	639.29	14,501,416.17	2,039,462.82	39° 55' 25.062 N	109° 34' 36.272 W
8,900.00	1.06	131.47	8,690.94	859.08	640.67	14,501,415.27	2,039,464.22	39° 55' 25.053 N	109° 34' 36.254 W
8,994.00	1.32	130.77	8,784.92	857.80	642.15	14,501,414.01	2,039,465.71	39° 55' 25.040 N	109° 34' 36.235 W
9,088.00	1.32	131.74	8,878.89	856.37	643.77	14,501,412.61	2,039,467.36	39° 55' 25.026 N	109° 34' 36.215 W
9,183.00	1.32	129.10	8,973.87	854.95	645.44	14,501,411.22	2,039,469.05	39° 55' 25.012 N	109° 34' 36.193 W
9,277.00	1.49	136.57	9,067.84	853.38	647.12	14,501,409.68	2,039,470.76	39° 55' 24.997 N	109° 34' 36.172 W
LAST SDI MWD PRODUCTION SURVEY									
9,372.00	1.49	135.43	9,162.81	851.60	648.84	14,501,407.93	2,039,472.50	39° 55' 24.979 N	109° 34' 36.150 W
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
197.00	197.00	-0.03	0.00	FIRST WFT MWD SURFACE SURVEY
2,263.00	2,166.60	455.75	328.20	LAST WFT MWD SURFACE SURVEY
2,389.00	2,278.53	501.41	363.72	FIRST SDI MWD PRODUCTION SURVEY
9,277.00	9,067.84	853.38	647.12	LAST SDI MWD PRODUCTION SURVEY
9,372.00	9,162.81	851.60	648.84	SDI PROJECTION TO BIT

Company:	US ROCKIES REGION PLANNING	**Local Co-ordinate Reference:**	Well NBU 1021-29C4BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	**TVD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Site:	UINTAH_NBU 1021-29F PAD	**MD Reference:**	GL 5263' & RKB 25' @ 5288.00ft (HP 311)
Well:	NBU 1021-29C4BS	**North Reference:**	True
Wellbore:	NBU 1021-29C4BS	**Survey Calculation Method:**	Minimum Curvature
Design:	NBU 1021-29C4BS	**Database:**	EDM5000-RobertS-Local

Checked By: _____ Approved By: _____ Date: _____